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AN OUTLINE OF
HAUSA GRAMMAR

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PREFACE

The following description is based upon the speech of Mr. John Frank (Abdu Hassan) of New York City. Mr. Frank is a native of Katsina province in Northern Nigeria. The numerous grammars and collections of texts are, as far as I have examined them, of other dialects, stressing that of Kano. They have occasionally been used as guides for the interpretation of material elicited from Mr. Frank. The dictionaries note Katsina forms but have not been used as sources. The dictionary of Rev. G. P. Bargery (G. P. Bargery, *A Hausa-English Dictionary and English-Hausa Vocabulary*, London, 1934) has been extensively referred to, and quotations from it are noted with (BD).

I am indebted to the American Council of Learned Societies, whose generous grants have enabled me to undertake and publish this work. I also wish to express my gratitude to Professor Z. S. Harris for his constant advice and constructive criticism. My thanks are also due to Miss Helen E. Hause, whose musical training has been of inestimable aid in the problems of tone and vowel length.

ABBREVIATIONS

BD	G. P. Bargery, <i>A Hausa-English Dictionary and English-Hausa Vocabulary</i> , London, 1934
GHL	F. W. H. Migeod, <i>A Grammar of the Hausa Language</i> , London, 1914
HD	C. H. Robinson, <i>Hausa Dictionary</i> , Vol. I, Cambridge, 1899 (Fourth edition, 2 vols., Cambridge, 1925)
HG	C. H. Robinson, <i>Hausa Grammar</i> , Fifth edition 1925, reprinted London, 1942
HT	C. T. Hodge and H. E. Hause, 'Hausa Tone', <i>Journal of the American Oriental Society</i> 64 (1944), pp. 51, 52.
ISH	R. C. Abraham, <i>An Introduction to Spoken Hausa and Hausa Reader for European Students</i> , 1940
LH	A. Mischlich, <i>Lehrbuch der Hausasprache</i> , Berlin, 1902
MA	C. T. Hodge, 'Morpheme Alternants and the Noun Phrase in Hausa', <i>Language</i> 21 (1945), pp. 87-91
MGSH	R. C. Abraham, <i>A Modern Grammar of Spoken Hausa</i> , 1941
NPH	A. L. James and G. P. Bargery, 'A Note on the Pronunciation of Hausa', <i>Bulletin of the School of Oriental Studies</i> , London, Vol. 3 (1925), pp. 721-728
PH	R. C. Abraham, <i>Principles of Hausa</i> , Kaduna, 1934
PHP	J. H. Greenberg, 'Some Problems in Hausa Phonology', <i>Language</i> 17 (1941), pp. 316-323
SH	Carl Meinhof, <i>Die Sprachen der Hamiten</i> , Hamburg, 1912
WHS	A. Mischlich, <i>Woerterbuch der Hausasprache</i> , 1906

CHAPTER I

PHONOLOGY

1.1. Phonemes. Hausa has the following phonemes:¹

Consonants:

Voiceless (p) t k f h s c š ?

Voiceless k? s? c?

glottalized

Voiced b d g z j m n ɾ r l

Voiced b? d?

glottalized

Semivowels w y

Vowels: i e u o a

Tones:² high ' low `

Junctures: close (no special marker) open / # / tone phrase //

1.2. Stops

1.2.1. /t/ voiceless aspirated dental stop

taagàà [t'a:ːgA:] 'window'

/d/ voiced dental stop

dafɪ̀ [dɛːhi:] 'poison'

/d?/ voiced glottalized dental stop

dʔaa [dʔa:] 'child, son'

/b/ bilabial voiced stop

bangoo [bɑːŋgʷo:] 'wall of a house'

/b?/ bilabial glottalized voiced stop

bʔaawaa [bʔaːwɑ:] 'bark of a tree'

1.2.2. Labialization before /u/, /oo/. /b, b?, k, k?, g/ are [bʷ, bʷ?, kʷ, kʷ?, gʷ] before /u/, /oo/. This labialization is not uniformly regular but sometimes varies considerably in the same morpheme. It does not occur before /uu/.

E.g. *ʔàbookii* [tʔaːbʷoːki:] 'friend'. *bʔootàà* [bʔʷooːt'a:] 'handle'. *ʔàbùtaa* 'friendship' [tʔaːbʷvːt'a:]. *kusa* [kʷvːsa:] 'near'. *koomii* [kʷoːmi:] 'anything'. *kʔudaa* [kʔʷvːda:] 'fly'. *kʔookʔii* [kʔʷoːkʔi:] 'a kind of insect'. *gusùn* [gʷvːsʊŋ] 'South'. *gòògee* [gʷoːʔge:] 'a string instrument'.

1.2.3. Palatalization before /i, e, y/. /k/ and /g/ are [k̟, g̟] (i.e. slightly palatalized) before /i, e, y/.³

E.g. *kimbaa* [k̟iːmba:] 'black pepper'. *kiɪfi* [k̟iːhi:] 'fish'. *kèèkee* [k̟eːʔke:] 'cart'. *kyànkyaòò* [k̟yeŋʔkyeːso:] 'roach'. *giširii* [g̟iːʃiːri:] 'salt'. *giɪwaa* [g̟iːwɑ:] 'elephant'. *geemii* [g̟eːmi:] 'goatee'. *gyaaraa* [g̟yeːra:] 'shaving, fixing'.

¹ Compare BD xxi-xxiv, NPH, PHP.

² High tone is unmarked in phonemic writing, the sign ' being used only in giving tone in formulae.

³ This palatalization is a more front position of the consonant but has no strong offglide as does the speech described by others (HD xix, xx, BD xxii [n. 5], MGS 4, PHP, NPH 723).

1.2.4. In all other positions /k, kʔ, g/ are as follows:

/k/ [kʰ] voiceless aspirated velar stop.

E.g. *kay* [ʰkʰaːy] 'head'. *kay* [ʰkʰaːy] 'you (m.)'. *kààmaa* [ʰkʰaːːmaː] 'a roast'. *kuusùù* [ʰkʰuːːsuː] 'rat'.

/kʔ/ [kʰʔ] voiceless glottalized velar stop.

E.g. *kʔafàà* [ʰkʰaːhʷaː] 'foot'. *lèèkʔee* [ʰlɛːːkʰeː] 'peering' (noun). *kʔuugùù* [ʰkʰuːːguː] 'lower part of back'.

/g/ [g] voiced velar stop.

E.g. *gàngaa* [ʰgaŋ˥gaː] 'drum'. *gùùluulùù* [ʰguːːluːːluː] 'lump of clay on spindle as balance'.

1.2.5. /ʔ/ [ʔ] glottal stop.

E.g. *ʔàfoo* [ʰʔaːːhoː] 'garlic'. *šàriiʔàà* [ʰʂeːːriːːʔaː] 'court, law'. *màɣfaʔàà* [ʰmaɣhʷpʰaː] 'a jolly person'.

1.3. Glottalized consonants.

Stops. /b, d, k/ have glottalized counterparts /bʔ, dʔ, kʔ/.⁴ Phonetically these latter phonemes are the corresponding stops interrupted by a glottal stop, then released, followed by the release of the glottal stop. Using vvvv for voicing, / for release, for the stops, and ----- for the glottal stop, we have:

/bʔ, dʔ/	-----/	/kʔ/	-----/
...../	/	
vvvv			

The effect of glottalization is seen not only in the cessation of voicing but also in the nature of the release. In /bʔ/ the lips are snapped vertically apart, with no aspiration whatsoever. /dʔ/ has a similar release. In /kʔ/ the release of the [k] is very light.

Spirants. /s, c/ have glottalized counterparts /sʔ, cʔ/. In the latter [s] and [ç] cease on the onset of [ʔ].

That the glottalized series are separate phonemes need not be discussed here except in regard to their being unit phonemes, not clusters of consonant plus glottal stop. Beside the phonetic unity, which is not necessarily conclusive, we have the criterion of vowel length, as well as the patterning of consonants (distribution). The glottalized series act as single consonants in that a preceding vowel in the same morpheme has the same length as it would were the corresponding simple stop there (see 1.9).

E.g. *bààkii* [ʰbaːːkiː] 'mouth'. *bààkʔii* [ʰbaːːkʰiː] 'strangers'. Secondly, there are no initial clusters of stop plus stop, or stop plus stop plus semivowel. These would be foreign to the whole syllabic pattern of the language. The initial clusters which do occur have semivowels (w, y) as second members of the clusters (1.14.3). Compare:

kʔyàlkʔyàlii [ʰkʰyɛl˥kʰyɛːliː] 'a glittering'

kyànkʔyasòò [ʰkyɛŋ˥kʰyɛːsoː] 'roach'.

1.4. Spirants and affricates /f, s, sʔ, z, c, cʔ, j, š, h/.

/f/ This phoneme has a wide phonetic range. For alternation with /h/ see 2.2.6.

⁴Compare particularly NPH 723, 724.

[φ] or [hʷ] before /a/ or single /u/.

E.g. *farīi* [ʰhʷa:ri:] 'a white one'. *fààraa* [ʰhʷa:ʔa:] 'locusts'. *fušīi* [ʰhʷu:ši:] 'anger'. *fukumcīi* [ʰfʊ:kʊmʰi:] 'rule'.

[h] before /i, e, o/ and /uu/.

E.g. *fīfīkèè* [ʰhʷi:hʷi:kè:] 'wing'. *kʔarfi* [ʰkʔa:ʔhi:] 'strength'. *kʔarfèè* [ʰkʔa:ʔhe:] 'iron'. *fòòtoo* [ʰho:ʔt'o:] 'picture'. *fūùlaa* [ʰhu:ʔa:] 'hat'.

[f], a sound very similar to English *f*, is a rarer variant before any vowel.

It is partly free.

E.g. *wòòfi* [ʰwo:ʔhi:] or [ʰwo:ʔfi:] 'a foolish one'. *fūùfuu* [ʰfu:ʔfu:] 'lungs'. *fàllasàà* [ʰfʌ:ʔsʌ:] 'Reveal a person's secrets and expose him to ridicule or punishment' (BD). *fòòtoo* [ʰfo:ʔt'o:] 'picture'.

[b], [p] or [f] before voiceless consonant or /ʃ/.

E.g. *tàfšee* [ʰtʰapʰše:] or [ʰtʰapʰše:] 'squash soup'. *ʔalif* [ʰʔa:lɪp] or [ʰʔa:lɪf] 'thousand'.

[p'] is a rare variant in syllabic initial, found regularly in a few words and sporadically in others.⁵

E.g. *pīlpīlòò* [ʰp'ɪl'p'ɪ:lɔ:] 'butterfly'. *paawàà* [ʰp'a:ʔwa:] 'butcher's trade'. *pàmpam* [ʰp'amʰp'am] 'that's all'.

/s/ voiceless dental spirant [s].

E.g. *sallà* [ʰsa:l'ɪa] 'prayer'. *sīrīkʔīi* [ʰsɪ:ʔri:kʔi:] 'a flute'.

/sʔ/ [sʔ] glottalized dental spirant.

E.g. *sʔakà* [ʰsʔa:k'ɪa] 'middle'. *sʔoofoo* [ʰsʔo:ʔho:] 'an old one'.

/z/ [z] voiced dental spirant.

E.g. *zanīi* [ʰze:ni:] 'a type of woman's dress'. *ziinaarīyàà* [ʰzi:na:ʔri:ya:] 'gold'.

/c/ [c] voiceless dental affricate.

E.g. *caacaa* [ʰča:ʔa:] 'gambling'. *cinyà* [ʰčɪ:ɲ'ɪe] 'thigh, hip'.

/cʔ/ [čʔ] glottalized voiceless dental affricate.

E.g. *cʔààdaa* [ʰcʔa:ʔda:] 'expensiveness'.

/j/ voiced palatal affricate. This is the voiced counterpart of both /c/ and /š/ and is neither [ʃ] nor [ʒ], though closer to the former: [ʒ].

E.g. *jaa* [ʰža:] 'a red one'. *jīrgīi* [ʰžɪ:ʔgi:] 'boat'.

/š/ [š] voiceless dental spirant.

E.g. *šaafòò* [ʰša:ʔho:] 'hawk'. *šīnkaafaa* [ʰšɪ:ɲ'k'a:hʷa:] 'rice'.

/h/ [h] spirant. This is a defective phoneme, occurring only before /a/ (in contrast to /f/ [hʷ]). Before all other vowels [h] is /f/.

E.g. *halīi* [ʰha:li:] 'mind'. *halšèè* [ʰha:ʔl'še:] 'tongue'.

1.5. Nasals /m/ and /n/.

/m/ bilabial voiced nasal.

[[~]m] or [m] before /ʃ/ or /ʒ/. As the first transcription indicates, it is sometimes very lightly pronounced with nasalization of the preceding vowel. It is normally unreleased.

E.g. *mùtum* [ʰmʊ:ʔt'v̄m], [ʰmʊ:ʔt'v̄[~]m] 'person'. *jààrum* [ʰža:ʔr̄v̄m] 'jail'. In the

⁵ Compare NPH 725, PH 3, HG 178, 179, MGS 3, WHS x, xi. On another analysis, perhaps preferable, /p/ and /f/ would be separate phonemes. /p/ would be a defective phoneme, occurring only before vowels. Certain morphemes would have alternants with /p/ and /f/ as optional or limited variants.

following word it has loose contact, usually with an anaptyctic vowel (only example noted before /j/): *gamjì* [g^ha·m^hi:~], [g^ha·m^hi:] 'gutta percha tree'.

Elsewhere it is [m].

E.g. *k^hàzamtàà* [k^ha·z^ha·m^ht'a:] 'nastiness'. *tùmbii* [t^hu·m^hbi:] 'stomach (as organ)'. *dumb^huu* [d^hu·m^hb^hu:] 'a worn out tool'. *lumsaašii* [l^hu·m^hsa:šii:] 'alternate breaking and closing (as of the lips in smiling or the sun appearing and disappearing in clouds)'. *damšii* [da·m^hši:] 'dampness'. *damc^hèè* [da·m^hc^he:] 'upper arm'. *k^hàmnaa* [k^ha·m^hna:] 'loving'. *zumwàà* [zu·m^hwa:] 'honey'. *gwamroo* [g^hwa·m^hro:] 'previously married but now wifeless man'.

/n/ dental voiced nasal.

[ŋ] before /k, k^h, g, ʔ, h, w, y/, [φ, h^h, h] (as variants of /f/).

E.g. *šinkaafaa* [š^hka·f^ha:] 'rice'. *k^hànk^hannèè* [k^ha·n^hk^ha·n^he:] 'a small one'. *šingee* [š^hi·ŋge:] 'a farm fence'. *wan^hin* [wa·n^hiŋ] 'that'. *ʔidònhaguu* [ʔi·do·ŋha·gu:] 'left eye'. *kanwaa* [ka·n^hwa:] 'potash, soda'. *cinyà* [š^hi·ŋye] 'thigh'. *ʔànfàdàni* [ʔa·n^hf^ha·ni:] 'usefulness'. *sanfòò* [sa·n^hfo:] 'basket made of woven palm leaves'.

[ŋ], [n], or [ʔ^h] before /ʃ/.

E.g. *sàttin* [sa·t^htiŋ] 'sixty'. *wannàn* [wa·n^hã^h] 'this'. *ʔàlkùr^han* [ʔa·l^hk^hu·r^haŋ], more commonly [ʔa·l^hk^hu·r^haŋ] 'Koran'.

[r] before /r, r, l/, apparently with lengthening of the following consonant.

E.g. *naamànṛàk^humii* [na:·mā·r^ha·k^hu·mi:] 'camel meat'. *ʔyanrààfi* [ʔy^hã·r^ha:·hi:] 'irrigation workers' (lit. 'children of irrigated farmland'). *maagàninṛàray* [ma:·g^ha·n^hi·r^ha·y] 'remedy for sand'. *ganinṛàdmakkà* [ga·n^hi·r^ha:·mā·k^hã] 'the seeing of your emaciated condition'. *ʔyanlambu* [ʔy^hã·l^ha·m^hbu:] 'irrigation workers' (lit. 'children of irrigating').

Should the nasalization be absent, this would be a replacement of /n/ by the consonant following.

[n] elsewhere.

E.g. *ʔantàà* [ʔa·n^ht'a:] 'liver'. *bùnsuruu* [b^hu·n^hsu·ru:] 'billy goat'. *s^huns^huu* [s^hu·n^hsu:] 'bird'. *hancì* [ha·n^hci:] 'nose'. *hànji* [ha·n^hzi:] 'intestines'. *banzaa* [ba·n^hza:] 'foolish thing'. *niisaa* [ni:·sa:] 'far off'.

1.6. Laterals /r, r, l/.

1.6.1. /r, r/. Hausa has two r's: [r], which is trilled (two or more tongue tip flaps) and [ɾ], a flap r with tongue forward, giving an 'l' effect, especially before front vowels.⁶ That the two are different phonemes is shown by the pair:

kuurààye [k^hu:·r^ha:·ye:] 'hyaenas' (sg. *kuuraa*)

kuurààye [k^hu:·r^ha:·ye:] 'cone-shaped drums' (sg. *kuurù*)

The pair used by Bargery and Abraham is:⁷

baràà [ba·r^ha:] 'servant'

baràà [ba·r^ha:] 'begging'

Other examples of the two are:

/r/ *muràà* [mu·r^ha:] 'head cold'. *fàṛawtàà* [f^ha·r^haw·t'a:] 'hunting'. *kuṛnàà* [k^hu·r^hna:] 'a cultivated tree'.

⁶ Compare HG 8, *l* and *r*. See also SH 58 fn. 1, NPH 725, MGS 3, 4.

⁷ BD xxii (n. 8), see other examples given there also; PH 4, MGS 4.

/r/ *kurààdaa* [kʷv:ʳa:da:] 'a hatchet to cut hay'. *cʰiròò* [cʰi:ʳo:] 'sprouting'. *biri* [bi:ʳi:] 'monkey'. *riigaa* [ri:ga:] 'type of clothing'.

1.6.2. /l/. [l], a more frontal *l* than in English.

E.g. *ʔàladèè* [ʔa:le:de:] 'pig'. *laakaa* [la:k:a:] 'mud'. *lèèfée* [lè:he:] 'a basket for ginned cotton'. *luuyàà* [lu:ya:] 'lawyer'.

1.6.3. Anaptyxis with laterals.

In clusters of /rC/ and /lC/ the contact between the lateral and the following consonant is loose, and there is a very short non-phonemic vowel. The quality of this vowel is determined by phonetic context. Using the symbol R for 'lateral', we have the following formulae:

Rw is [Rʷw] Ry is [Rʲy] RCi and RCe are [RʲCi] and [RʲCe]

Elsewhere V¹RC is [V¹RʲV¹C, [v¹] following the quality of the vowel preceding R. The tone of the anaptyctic vowel is the same as that of the preceding vowel. The quality also varies, usually according to the allophone of the determining phoneme, though anaptyctic [i] is usually [i] when determined by an [i]. E.g.:

Rw, Ry *kʰiʃurwaa* [kʰi:ʃʷrʷa:] 'thirst'. *ʔàlwasà* [ʔalʷa:sa] 'the width of any material as woven' (BD). *kʰwaryaa* [kʰwa:ʳya:] 'large calabash'.

RCi, RCe *zurfi* [zʷrʲhi:] 'depth'. *kʰarfèè* [kʰa:ʳhe:] 'iron'. *gulbii* [gʷvʲlbi:] 'river'. *falkèè* [hʷa:ke:] 'trader'.

VRC *kurkutu* [kʷvʲrʲkʷvʲtʲu:] 'small drum'. *kulbʰàà* [kʷvʲlʲbʰa:] 'lizard'. *girmaa* [gʲrʲma:] 'largeness, large size'. *bincilmay* [bʲnɛlʲma:y] 'ostriches'. *sarmàyyi* [sɛʳʲma:ʲi:] 'young man'. *taakalmàà* [tʰa:ka:ma:] 'sandals'.⁸

1.7. Semivowels /w, y/

/w/ and /y/ in intervocalic position before or after homorganic vowels are [w] and [y] respectively. This is not a mere glide but a lighter (less audible) pronunciation. This may be seen by a comparison of *may* [ma:ʲi:] 'grease, butter' with *maayèè* [ma:ʲe:] 'wizard', although these are not a perfect pair. In *may* the *y* is phonetically a slight glide plus [i], whereas the *y* in *maayèè* is much stronger. The degree of lightness is not always uniform, but these minutiae are not distinguished in the following examples.⁹

/w/ *saawuu* [sa:wu:] 'footprint'. *ʔàkààwuu* [ʔa:kʰa:wu:] 'clerk'. *sʰaawoo* [sʰa:wu:] 'length'. *ciiwòò* [çi:wu:] 'sickness'. *tuwòò* [tʰu:wu:] 'a thick porridge'. *ʔiinguwaa* [ʔiŋgu:wa:] 'district'. *tagiwwaa* [tʰa:gu:wa:] 'a kind of shirt'. *koowaa* [kʰo:wu:] 'everybody'. *màyyroowà* [ma:ʳro:wu] 'stingy person'.

/y/ *makʰiyii* [ma:kʰi:ʲi:] 'hater'. *makʰiyààyii* [ma:kʰi:ʲa:ʲi:] 'herder'. *sʰunsʰààyye* [sʰu:nʰa:ʲe:] 'birds'. *gaskeeyaa* [ga:ske:ʲa:] 'truth'. *luubiyyaa* [lu:bi:ʲæ:] 'ripe fruit'. *biyyu* [bi:ʲu:] 'two'.

Elsewhere /w, y/ are similar to English *w, y*: [w], [y].

E.g. *wani* [wɛ:ni:] 'anyone, someone'. *wàndoo* [wanʰdo:] 'trousers'. *yunwàà* [yʷvʲwa:] 'hunger'. *yaaròò* [ya:ʳo:] 'boy'.

⁸ Stress may fall on an anaptyctic vowel: *ki'r̀k̀l̀* [kʰi:ʳʲki]. The length of the vowels (preceding and anaptyctic) is affected and the statement of vowel length would undoubtedly be modified in some details by a careful study of the stress. The presence or absence of the anaptyctic vowel should also be more narrowly defined. It is absent, for example, in *halšèè* 'tongue' (but *kilš̀* with anaptyctic vowel).

⁹ Compare LH 4 (and fn. 1).

1.8. Sequences of like phonemes. A sequence of like phonemes is phonetically a long vowel or consonant. For vowel length see 1.9. That a sequence of like consonant phonemes is phonetically long, not double (i.e. rearticulated), is clearly seen in the case of /r/, which, if rearticulated, would be the equivalent of a single /r/. Instead we have a held flap. E.g. *kʔààrarree* [kʔa:ʔa:ʔa:ʔe:] 'a completed thing'. The glottalized series do not geminate, the first of two being replaced by its non-glottalized equivalent, e.g. /kʔ/ plus /kʔ/ yields /kkʔ/, phonetically [kʔ]: *fèèkʔàkkʔuu* [ʔhe:kʔakʔu:] 'sharpened ones'. Other examples of consonant sequences are: *fíffikèè* [ʔhɪhɪɪ:ʔke:] 'wing', *ʔiccèè* [ʔɪçɪe:] 'tree'. For further examples see 1.14.4.

1.9. Vowel length. Phonetically there are five different vowel lengths, conditioned by the tone, structure of the syllable, and the juncture following. Using /a/ as a type vowel, the conditions are:

1 CVC	CV̂*	[a]
2 CṼ	CṼC CṼ*	[aː]
3 CV	CṼV̂*	[aː]
4 CṼV̂	CṼV̂*	[aːː]
5 CVV	CṼV̂	[aːː]

Frequently a glottal stop (non-phonemic) may be heard after a vowel before /ʔ/. That vowel length is phonemic may be illustrated by the pair:

tàgùway [tʔʰaːguʔwaːy] 'a kind of shirt' (pl.)

tààguway [tʔʰaːːguʔwaːy] 'female camels'.

Since the vowels /e/ and /o/ occur only in geminate clusters /ee/, /oo/ (1.14.1), they may have only lengths 3 to 5. Examples of vowel length are:

1 [a] in CVC: *gìndii* [ʔgɪnʔdi:] 'hips'; *kùnkuruu* [kʔʊnʔkʊ:ʔu:] 'tortoise'; in CṼ*: *yaadʔàwki yaasʔàà* [ʔya:ʔdʔawki ʔya:ʔsʔa:] 'he took (his) finger'.

2 [aː] in CṼ: *ʔibiliišii* [ʔɪbɪlɪ:ʔi:ʔi:] 'demon', *ʔùbaa* [ʔʊvʔba:] 'father', *kàree* [kʔʰaʔre:] 'dog'; in CṼC: *bindigàà* [ʔbɪndɪ:ʔga:] 'gun', *masukàà* [ʔmaːsʊkʰa:] 'a type of large calabash' (pl.), *ʔantàà* [ʔʔaːnʔtʰa:] 'liver'; in CṼ*: *nagàri* [ʔnaːʔgaːʔri:] 'a person of good character'.

3 [aː] in CṼ: *gizòò* [ʔgɪ:ʔzo:] 'spider (folklore trickster)', *kudʔii* [kʔʊvʔdʔi:] 'money', *sagoo* [ʔsaːgo:] 'whirlwind'; in CṼV̂*: *ʔaykii* [ʔʔaːyʔki:] 'work', *yaabwudʔèè* [ʔya:ʔbu:ʔdʔe:] 'it's open', *ʔàlaarùù* [ʔʔaːʔla:ʔru:] 'porter', *ʔidòò* [ʔɪ:ʔdo:] 'eye', *kʔàzamtàà* [kʔʰaːʔzaːmʔtʰa:] 'nastiness'.

4 [aːː] in CṼV̂: *cùcii* [ʔci:ʔci:] 'anything that bites when you're not looking', *bèèlii* [ʔbe:ʔli:] 'flute', *tùùsʔuu* [tʔʊ:ʔsʔu:] 'a festival drum', *tòòkaa* [tʔʰo:ʔkʰa:] 'ashes', *mààgee* [maːʔge:] 'cat'; in CṼV̂*: *fušii* [ʔhʊvʔsi:] 'anger', *beebee* [ʔbe:ʔbe:] 'deafmute', *rùùgùtuu* [ʔru:ʔguʔtu:] 'writing', *cèètoo* [ʔce:ʔtʰo:] 'salvation', *raanaa* [ʔraːna:] 'sun'.

5 [aːː] in CṼV̂: *kiifii* [ʔki:ʔhi:] 'fish', *neemaa* [ʔne:ʔma:] 'seek', *dambuubùù* [daːmbu:ʔbu:] 'calf of leg', *zoomoo* [ʔzo:ʔmo:] 'rabbit', *laakaa* [ʔlaːkʰa:] 'mud'; in CṼV̂: *jùù* [ʔzi:ʔi:] 'perceiving', *yaaceè* [ʔya:ʔceːe:] 'he said', *soo* [ʔsoːo:] 'wanting', *saàtàà* [ʔsaːʔtʰa:] 'stealing'.

It should be said that the length of a final vowel is difficult to determine, especially if it has low tone. Note that according to the above formulation, a

final long vowel with low tone has the same length as a short high in an open syllable.¹⁰

1.10. Vowel quality. Length is not marked in the brackets following a given phoneme and giving the quality.

1.10.1. /i/ [i] before /y/, optionally before /ʃ/, and in /ii/.

[i] elsewhere

E.g. *wiyaa* [ʷiː˥˥a:] 'difficulty', *wiyàà* [ʷiː˥˥a:] 'neck', *mùyi hàwkaa* [mʊ˥˥iː ʰaw˥˥k'a:] 'let's act crazily', *wuri* [ʷuːɾiː], [ʷuːɾiː] 'earliness', *ʔiskàà* [ʔiːs˥˥k'a:] 'wind', *kicʔèè* [kʲiːcʔeː] 'fat', *niisaa* [niːsa:] 'far off', *fiilii* [ʰiːli:] 'open space (for public use)'.

1.10.2. /ee/. [e] before /ʃ/, [e] elsewhere. E.g. *kay sanfòònee* [k'aːy saɲ˥˥hoː˥˥neː] 'you're a palm-leaf basket' (i.e. soft and unstable), *ganyee* [g'aːɲyeː] 'leaf', *bèèlii* [beːli:] 'flute', *bàreewàà* [b'aːɾeː˥˥wa:] 'gazelle'.

1.10.3. Umlaut. /u, oo, a/ are [ʊ, oʷ, aʷ] respectively before /ny/, or before /nk, ng, nʔ, nʃ/ followed by /i, ee/. Before /nʃi/, /a/ is sometimes only [æ], the palatalization not being quite so strong.

E.g. /u/ *tudunyàà* [tʰuːduːɲya:] 'hill', *tunkiyaa* [tʰuːɲkiː˥˥a:] 'ewe', *dʔunkii* [dʔuːɲkiː] 'sewing', *munʔiibàà* [mʊːɲiː˥˥ba:] 'we fetched some', *munʔèèbeešì* [mʊːɲʔeː˥˥beː˥˥ši] 'we fetched a little of it', *hannunšì* [haːn˥˥uːnʃi] 'his hand'. /oo/ *šinà soonyàsààmì duuniyàà* [ʃiː˥˥na˥˥soː˥˥ɲyaːsaːmʲiː˥˥duːniː˥˥a:] 'he wanted to receive the world', *ʔinà soonkì* [ʔiː˥˥na˥˥soː˥˥kʲi] 'I love you (f.)', *tanà soonʔigizòò* [t'aː˥˥na˥˥soː˥˥ɲgiː˥˥zo:] 'she wants the spider', *sunà soonʔintàfi* [sʊː˥˥na˥˥soː˥˥ɲt'aː˥˥fi] 'they want me to go', *šinà soonšì* [ʃiː˥˥na˥˥soː˥˥nʃi] 'he likes him'. /a/ *hanyàà* [haːɲyaː] 'road', *gwankii* [gwaːɲkiː] 'Roan antelope' (BD), *kàwankèèšì* [k'aː˥˥waːɲkeː˥˥ši] 'wash it!', *bàkangizòò* [b'aː˥˥k'aːɲgiː˥˥zo:] 'rainbow', *wanʔin* [waːɲiːn] 'that one', *naaganšì* [naːgaːnʃi] 'I saw him', *baayanšì* [baːyaːnʃi] 'his back'.

1.10.4. Otherwise /u, oo, a/ are as follows:

/u/ [u] before /u/ or /w/, [ʊ] in /run/, [ʊ] elsewhere ([ʊ] as *oo* in English *soot*).

E.g. *suunaa* [suːna:] 'name', *ruwaa* [ɾuːwa:] 'water', *bàrunjèè* [b'aː˥˥ɾuːnʃeː] 'butcher', *kudʔii* [kʲuːv˥˥di:] 'money', *mussàà* [mʊːs˥˥a:] 'cat'.

/oo/ [o] This is a pure vowel, not a diphthong.

E.g. *zoomoo* [zoːmo:] 'rabbit', *tabòò* [t'aː˥˥bo:] 'scar', *tooyèè* [tʰoː˥˥yeː] 'to burn'.

/a/ Beside the above mentioned [aʷ], /a/ has the variants: [æ], [ɛ], [ɒ], [a], [aː], [aː]. The distribution of these is very complex, and no clear pattern has yet emerged. There appears to be some free variation among them. E.g. *luubiyaa* [luː˥˥biː˥˥aː] 'ripe fruit', *maatinjà* [maː˥˥tʰiːnʃaː] 'messenger', *yaayi* [yaː˥˥iː, yeː˥˥iː] 'he made'. Examples of the different variants are:

¹⁰ The system of vowel length was worked out with contrasting pairs, and the results as set forth here were applied to other examples. The length of a vowel as given in brackets is not an impressionistic one, but an interpretation from the phonemic or semi-phonemic recording. Final vowel lengths are also re-interpretations in some instances. Examples were re-checked with an informant when possible. The phonetic difference between identical phonemic lengths has been occasionally noted by others. For example, see BD under *da*: of *da* II (*daà*) he says 'a very long vowel' but of *da* III (*daà*) 'vowel not so long as in *da* II'.

[æ] *yafkʔii* [ʔyæ·b̥kʔi:] 'sliminess', *baayan̩* [ʔba:·yæ·n̩ʔi] 'his back', *gyaftòò* [ʔgyæ·b̥t̩'o:] 'skirt', *fiyaakʔii* [ʔhi·ʔ·æ<·kʔi:] 'smoke', *šántuu* [ʔsæn̩t̩'u:] 'a long calabash'.

[e] *yaddàà* [ʔye·d̩·a:] 'to throw away', *yazgaa* [ʔye·zga:] 'hair of horse's tail', *buuyà* [ʔbu:·!ye] 'pig iron', *gàjàrtaa* [!ga·žer̩t̩'a:] 'shortness', *tàrcʔii* [!t̩·er̩cʔi:] 'flickering', *yaaragèè* [ʔya:·re:·!ge:] 'he left some', *daf̩i* [ʔde:·hi:] 'poison', *daree* [ʔde:·re:] 'night'.

[v] *fanfaryaa* [ʔh̥w̥·p̥h̥w̥·a·f̩·ya:] 'slipping off of handle', *kwalbaa* [ʔkw̥·p̩·!ba:] 'bottle', *saabwangàrii* [ʔsa:·!bw̥·p̩·g̩·!ri:] 'a new town' (a foreign settlement).

[a] *halšèè* [ʔha·!l̩·še:] 'tongue', *šaroo* [ʔʔa:·ro:] 'loan', *karbʔèè* [ʔk̩·a·r̩·bʔe:] 'to answer', *kʔarfii* [ʔkʔa·r̩·hi:] 'strength', *banzaa* [ʔba·n̩za:] 'foolishness', *samroo* [ʔsa·m̩ro:] 'mosquito', *kay* [ʔk̩·a·y] 'you' (m.sg.), *sawcʔii* [ʔsa·w̩cʔi:] 'glossiness'.

[A<] *san̩* [ʔsa<·!ni] 'to know', *zan̩i* [ʔza<·!ni:] 'a type of woman's dress', *sàrii* [!sa<·!ri:] 'leather worm'.

[A] *masassabii* [ʔma·sa·s̩·!bi:] 'a harvesting implement' (BD sub *magirbi*), *faš̩i* [ʔh̥w̩·!š̩i:] 'breaking', *kʔàl̩aa* [!kʔ·!l̩·!a:] 'the young of almost any fish' (BD), *šagàlii* [ʔš̩·!ga·!li:] 'business' (BD), *watàà* [ʔwa:·!t̩·a:] 'moon, month'.

A descriptive statement would have to take into account exact phonetic length, tone, stress, and phonetic environment as to both consonants and nearby vowels. A few generalizations may be made but only as guides, not as rules. [æ] and [e] tend to appear after palatals (/y, j, c, š/) and before syllables with /i, e/. [v] appears near (usually after) /w, f/. /aa/ is usually [a]. /a/ is [a] near back consonants and before /m, n, w, y/ in the same syllable. With a complete statement, /a/ would be [A] elsewhere.

1.11. Tone.¹¹ Hausa has two phonemic tones: high /' and low //. Phonetically relative tone is determined by tone phrase contour, ranging from basic high [5] to basic low [1], the difference between these basic points being a musical fifth. This means there are five phonetic levels of tone. Each word has its own tone pattern phonemically. In placing words together in a tone phrase, the phonetic value of the phonemic tones is determined by the phrase contour. There are at least two tone phrase contours, the narrative and the interrogative. The narrative is the basic contour, the interrogative being a modification of it. These contours may be stated in numbers from 1 to 5 for the five levels of tone. Several general statements may be made:

- a. Every tone phrase initial or final /' is [1].
- b. The first /' in a tone phrase is [5].
- c. Every tone phrase must have at least one /'.
- d. A series of two or more tones of the same phonemic level remain on the phonetic level of the first.
- e. A tone phrase may consist of any number of successive tone units (single tones) within a contour pattern from a single high to a complete pattern.

1.11.1. The narrative contour. The narrative contour is [1 5 3 4 2 3 1 2], i.e. starting with the first /' [5] every drop is two steps and every rise one, except that any final /' is [1] (statement a). Many examples have been given

¹¹ Compare BD xxvii–xxviii, PH 4–8, 129–132, MGHS 137–142, ISH 3, HT.

in sections 1.1 to 1.9. The following examples are given in phonemic transcription only, with the phonetic tone indicated by numbers under the phonemic tone:

kàkwancèemu gà sarkʔàà 'release us from the chains!'

1 5 3 4 2 3 1

mumà fadʔàà dà mazààjee 'we were fighting with men'

5 3 4 2 2 3 1 2

màykàràmbààniinèè 'he's a bothersome person'

1 1 1' 1 5 1

taagaa sarkii 'she saw the king'

5 5 5 5

šinà jaṇdooki 'he's pulling the horse'

5 3 42 3 1

An utterance may include any number of tone phrases. For example:

sʔofoonrìigaa // taafi bàà koomii 'an old shirt is better than none' (lit.

5 5 3 4 5 5 53 4 4

'exceeds "without anything"').

dooki wannàn // dàban yakèè dà naakà 'this horse is different than yours'.

5 3 4 1 1 5 5 3 3 4 1

duuniyàà // taayi màkyaw, // duuniyàà // taayi muugù, // baabù muugù, //

5 5 1 5 5 3 41 5 5 1 5 5 5 1 5 3 4 1

baabù màkyaw, // baabù duuniyàà. 'the world has made good people (lit. a

5 3 3 41 5 3 4 4 1

good one) and bad people (lit. a bad one); were there no bad, were there no good, (there'd be) no world'.

1.11.2. Interrogative contour.¹² The equivalents of English questions frequently have simple narrative contours:

mìineenèè // kaajimàà dà yawà 'why did you take so long?'

1 5 1 5 5 3 3 4 1

wààneenèè // yaaʔaykookà 'who sent you here?'

1 5 1 5 5 5 1

On the other hand, many questions have a contour which differs from the narrative and may be called the "interrogative contour". Although definite rules have not been established, the characteristic feature is a replacement of phonemic lows by highs towards the end of the utterance. Examples are:

dòòmimmìineenèè // kaamanceè 'why did you forget?'. Only the second

1 5 3 4 1 5 5 51

contour is interrogative. The narrative is *kaamanceè*.

dammìineenèè 'why?' for *dammìineenèè* (also recorded in the same text).

5 3 4 4 5 3 4 1

The interrogative is here followed (in the text) by the rest of the question with narrative contour. Contrast the last example ('why did you forget?') where the first part of the question had narrative contour and the second interrogative.

¹² Compare MGS 100-105, ISH 66-68.

kanòò // mad²ùnkii da yawa? 'are there many tailors in Kano?'. Narra-

5 1 5 3 4 5 5 5

tive: *dà yawà*.

2 3 1

hakàànee? 'is that so?'. Narrative: *hakàànee*.

5 3 51

5 3 4

1.12. Junctures. There are three phonemic junctures.

1.12.1. Close juncture. This juncture is marked by the contiguity of successive phonemes in an utterance and indicates lack of pause or of facultative pause. For example, in *gaafaràà* 'pardon', this juncture occurs between each linear phoneme and the following one beginning with /g/ and /a/ and ending with /à/ and /à/. The final /à/ is followed by open juncture.

1.12.2. Open juncture occurs before the first morpheme in an utterance and after any morpheme or combination of morphemes not bound by close juncture to the morpheme following (therefore before any not bound by close juncture to the morpheme preceding). It is phonetically pause, facultative pause or only a conditioning of preceding vowel length. It is indicated by space in a text or by /#/ in discussions. Phonetically it conditions the length of any vowel preceding it. It also has a morphophonemic function, for which see 2.2).

1.12.3. Tone phrase juncture occurs simultaneously with either close or open juncture, though usually with the latter. It indicates the end of a tone phrase contour and the beginning of a new one (if followed by another morpheme or sequence of morphemes). No special mark (except punctuation) is used in utterance initial or final position, it being understood that a tone phrase begins when an utterance begins and that one ends when an utterance ends. Medially in an utterance it is indicated by //. Examples are:

gàrimmù // lookàcintuuraawaa bàsùzoo ba // munà yaak²induuniyàà // munà

1 5 1 5 3 4 4 4 4 2 2 3 3 5 3 4 4 4 4 1 5 3

kašèè mutàànee. 'In our country at the time the Europeans hadn't come, we

4 2 3 1 2

were a fighting world; we killed people.'

yaagayàà manì // nii // bàà namijìì banèè. 'He said to me, "I'm not a

5 5 3 4 1 5 1 5 5 3 4 1

he-man."

nii bànkulàà ba // ²àbin//dà sunceè. 'I don't care what they say.' Here

5 3 4 1 1 1 5 1 5 5 1

the sequence *²àbindà* has only close juncture, but the change of contour shows that there is also a tone phrase juncture. Since contour final low and contour initial low are both 1, there is no phonetic criterion for determining whether the juncture is before, after, or in *dà*. The division here is made for syntactic reasons (*dà sunceè* = noun, so is treated as a unit). Although the present notes are not decisive, it would seem probable that at least some tone phrase junctures are facultative.¹³

1.13. Stress. Hausa has stress as well as tone, but this remains unstudied in

¹³ Compare Bloch, Language 22.201-202 in regard to pauses in Japanese.

this description.¹⁴ It is hoped that a study of it can be made and a definitive statement issued. This would help to clear up some other problems. For example, the positional variants of the phoneme /a/ are in some cases related to stress. Compare *daràdà* [ʔdɛːɾaː] 'a game played by moving pieces on a board' and *madaraa* [ʔmaːdaːɾaː] 'fresh milk', where the /a/ in /daɾ/ is [ɛ] when stressed and [a] when unstressed. From the little known thus far, stress appears to be non-phonemic. It is left unrepresented in the phonetic transcriptions as the material used has practically no stress marked, the emphasis having been upon tone.

1.14. Phonemic distribution.

1.14.1. Vowels. A vowel may follow a consonant or an identical vowel. It may precede a consonant, an identical vowel, or /ʔ/. The vowels /e/ and /o/ are further limited in that they occur only in clusters /ee/ and /oo/.

/i/ ʔidòò 'eye', *duucʔii* 'rock'. /ii/ ʔiikòò 'authority, power'. /ee/ *kàbeewàà* 'squash', *ganyee* 'leaf'. /u/ *bundii* 'tail', *bùnsuruu* 'goat'. /uu/ *duuniyàà* 'world', *duu* 'scorpion'. /oo/ *kòòmoo* 'like'. /a/ *daasàšii* 'gums', *giwàà* 'elephant'. /aa/ *dààmisàà* 'leopard'.

1.14.2. Consonants, single. Any consonant may occur initially after pause or medially between vowels. Examples:

Initially	Medially
/ʔ/ ʔiskàà 'wind'	<i>baʔà</i> 'joke'
/b/ ʔàbookii 'friend'	ʔabààwaa 'yarn'
/b/ bʔàraawòò 'thief'	<i>gabʔà</i> 'joint'
/c/ <i>cukwii</i> 'cheese'	ʔacàkookoo 'a kind of rattle'
/c/ cʔanyà 'cricket' (BD)	<i>duucʔii</i> 'rock'
/d/ <i>dabòò</i> 'magic'	ʔadoo 'smallpox'
/d/ dʔaakì 'room'	<i>fadʔàà</i> 'fight'
/f/ <i>farii</i> 'a white one'	ʔafararì 'cream'
/g/ <i>gàbaa</i> 'chest'	<i>gòògee</i> 'fiddle'
/h/ <i>habʔà</i> 'chin'	<i>yaahadʔàà</i> 'he swallowed'
/j/ <i>jìki</i> 'body'	<i>bàjini</i> 'bull'
/k/ <i>kumci</i> 'cheek'	<i>kèèkee</i> 'wagon, cart'
/kʔ/ kʔoofà 'doorway'	<i>bakʔii</i> 'black one'
/l/ <i>laakaa</i> 'mud'	ʔàgùluu 'vulture'
/m/ <i>mijì</i> 'husband'	ʔàlààmu 'expectation'
/n/ <i>niisaa</i> 'far'	ʔàmaana 'peace'
/p/ <i>pàmpam</i> 'that's all'	<i>pilààpìlay</i> 'butterflies'
/r/ <i>reešèè</i> 'branch'	<i>farii</i> 'white one'
/ɾ/ <i>ɾamà</i> 'hemp'	ʔafararì 'cream'
/s/ <i>sagoo</i> 'whirlwind'	ʔàlbasà 'onion'
/sʔ/ sʔuusʔà 'worm'	<i>duwààsʔuu</i> 'rocks'
/š/ <i>šaafoo</i> 'hawk'	<i>saašèè</i> 'half, part'
/t/ <i>tàwsay</i> 'compassion'	ʔàbùtaa 'friendship'
/w/ <i>wàndoo</i> 'trousers'	<i>gaawaa</i> 'dead body'

¹⁴ Compare MGS 141-142, PH 5, 6, 8-13.

/y/	<i>yaaji</i> 'pepper'	ʔaya	tiger-nut grass'
/z/	<i>zoobèè</i> 'ring'	ʔazurfa	'silver'

The following consonants were noted in final position:

/p/	ʔalip '1000'	/f/	šààrif 'descendant of the prophet'
/s/	<i>takwàs</i> 'eight'	/m/	<i>pàmpam</i> 'that's all'
/š/	<i>tàrbuš</i> 'fez'	/n/	<i>gusùn</i> 'south'
/t/	<i>minìt</i> 'minute'	/w/	<i>màntaw</i> 'forgetful person'
/r/	<i>sèèbur</i> 'table, shovel'	/y/	<i>màlààʔikay</i> 'angels'
/l/	<i>kʔùful</i> 'a field rat'		

1.14.3. Consonants, initial clusters. The following initial clusters were noted:

/kw/	<i>kwaanaa</i> 'day'	/ky/	<i>kyarma</i> 'trembling'
/kʔw/	<i>kʔwalwaa</i> 'brain'	/kʔy/	<i>kʔyàlkʔyàli</i> 'glittering'
/gw/	<i>gwaazaa</i> 'koko yam' (BD)	/gy/	<i>gyàmroo</i> 'volunteer corn'
/dw/	<i>dwaalakʔii</i> 'hugeness'		
/dʔw/	<i>dʔwaacii</i> 'bitterness'	/ʔy/	<i>ʔyaaʔyaa</i> 'children'
/sw/	<i>swàànee</i> 'stealing off someone'		
/sʔw/	<i>sʔwaasʔòò</i> 'cockroach'		
/zw/	<i>zwààri</i> 'greed'		

Note that all have /w/ or /y/ as second member of the cluster.¹⁵

1.14.4. Consonants, medial clusters. The accompanying chart gives the medial two consonant clusters noted. Geminates of all but glottalized consonants are found (see 1.8). /y/ occurs unrestrictedly as first member and /n/ subject only to rules of replacement (see 2.2.3). The chart is arranged to show the limitations of voiced-voiceless or voiceless-voiced combinations. Phonemes /p/ to /j/ do not occur in two consonant clusters with each other unless both members of the cluster are either voiced or voiceless. The glottal stop may also belong to this group. The other consonants, /r/ to /y/, do not have this limitation. It is generally a limitation of consonants which have voiced or voiceless counterparts, but the pattern is by no means perfect:

p, f, h	t	k	s	š, c
b	d	g	z	j

The glottalized series /bʔ, dʔ, kʔ, sʔ, cʔ/ do not have counterparts but are restricted in clusters in the same way as the unglottalized. They are further restricted in that they occur initially in clusters only before /w/ and /y/. /bʔ/ and /cʔ/ were not found initially in clusters. *p* is usually a free variant of /f/ when initial in clusters (and elsewhere, see fn. 5). Examples of both are given

¹⁵ The following additional initial clusters with /w/ or /y/ are given in Bargery (BD) as from Katsina: /bw/ *bwiya* (given as *buuya* by my informant), /bʔw/ *bʔwalanbʔwantani*, /cw/ *cwai*, /fy/ *fyace*, /lw/ *lwacʔi* /nw/ *nwai*, /rw/ *rwagga*, /řw/ *rwabbe*. Others, not labelled as from Katsina, are: /by/ *byallam*, /bʔy/ *bʔyasa*, /fw/ *fwatta*, /hw/ *hwi*, /hy/ *hyade*, /jw/ *jwai*, /mw/ *mwimwi*, /ny/ *nyar*.

and the equivalence with /f/ indicated where there is evidence of free variation.¹⁶ Clusters such as /ft, fc, fs/ may be [bt, bc, bs], but phonemically /bt, bc, bs/ do not occur. Examples of the clusters on the chart are:

/pC/: /pt/ *gyaptòò* (= *gyaftòò*), pl. *gyaptàpay* 'shirt'. /pk/ *šipkà* (= *šifkà*) 'planting'. /pkʔ/ *yapkʔii* (= *yafkʔii*) 'sliminess'. /ps/ *kàtapsà* 'rope ladder'. /pš/ *tàpšee* (= *tàfšee*) 'a stew'. /pc/ *cìpci* 'thatching grass' (BD).

/tt/: *battà* 'little (leather) box'.

/kC/: /kk/ *tukkuu* 'crest'. /kw/ *yaakwantàà* 'he lay'. /ky/ *kàkyankyànee*.

/kʔC/: /kʔw/ *dakʔwalwaa* 'laying hen'. /kʔy/ *taakʔyaalèèni* 'she ignored me'.

/sC/: /st/ *kwastàmastà* (nickname for rooster): *kwatàà mastà* 'quartermaster'.

/sk/ *ʔiskà* 'wind'. /skʔ/ *maskʔii* 'greasiness' /ss/ *mussà* 'cat'. /ssʔ/ *dàmsʔàss-ʔuu* 'upper arms'. /sw/ *yaaswaabʔèè* 'he skinned himself'.

/šš/: *šiššikee* 'beam'.

/cC/: /cc/ *ʔiccèè* 'tree'. /ccʔ/ *cʔaccʔafa* 'drizzle'.

/fC/: See also /pC/. /ft/ *dàftii* (= *dàptii*) 'stale food'. /fk/ *ʔafkì* 'swelling of grain in cooling' (BD). /fkʔ/ *yafkʔii* (= *yapkʔii*) 'sliminess'. /fs/ *hafsà* 'officer'. /fc/ *zàfcee* (= *zàpcee*) 'to bite (without warning, and then run)'. /ff/ *tàffa* 'ginned cotton'. /fš/ *naagwafšèèši* 'I hit him (hard)'.

/hh/: *bʔootàhhawyaà* 'the handle of the hoe'.

/bC/: /bb/ *bàbba* 'a big one'. /bbʔ/ *ʔùbʔabbʔee* 'rotten thing'. /bd/ *ʔabdùgàà* 'cotton'. /bdʔ/ *yabdʔoo* 'a plant whose seeds are used for soup'. /bg/ *sʔabgà* 'switch'. /bz/ *bàʔabzùnii* 'an easterner'. /br/ *kʔwaabri* 'shinbone'. /bl/ *makublii* 'key'.

/dC/: /dd/ *bùddarii* 'skunk'. /ddʔ/ *cèèdʔàddʔuu*. 'fig trees'.

/dʔw/: *madʔwaadʔiyaa* 'whip snapped to scare birds'.

/gC/: /gg/ *gàdàgaggi* 'torches'. /gw/ *ʔagwajaa* 'a small boat'.

/zC/: /zb/ *hazbiyaa* 'a wild, speckled pigeon' (BD). /zg/ *gizgirii* 'heart (of plant)'. /zz/ *kòòzazzaa* 'faded (f.)'. /zw/ *naazwàdree gùda* 'I took one'.

/jj/: *kòòzajjee* 'faded one (m.)', *jajjàdàyee* 'red ones'.

/rC/: /rk/ *sarkii* 'king'. /rk/ *sarkʔàà* 'chain'. /rcʔ/ *sarcʔèè* 'splinter'. /rf/ *kʔarfèè* 'metal'. /rbʔ/ *kirbʔii* 'working of a dough-like mass'. /rg/ *bìr-gaamì* 'goatskin bag'. /rj/ *kʔirjii* 'chest'. /rr/ *kwàrarròò* 'bag of dum-palm leaves' (BD). /rm/ *bʔurmaa* 'a clay trap'. /rw/ *bùdurwaa* 'girl'. /ry/ *gùryaa* 'cotton seed'.

/ʔC/: /ʔt/ *burttu* 'ground hornbill' (BD). /ʔk/ *ʔààtùrkùmaamii* 'a type of camel'. /ʔs/ *hàrsa* 'insides of calabash'. /ʔš/ *kàbarši* 'leave him!'. /ʔc/ *barci* 'sleep'. /ʔcʔ/ *garçʔàà* 'jaggedness'. /ʔf/ *ʔarfoofi* 'cheapness(es)'. /ʔh/ *ʔàrhaa* 'cheapness'. /ʔb/ *ʔàrbàʔin* 'forty'. /ʔbʔ/ *gùrbʔiyaa* 'peanut soup'. /ʔd/ *sàrdiidii* 'well-built man'. /ʔdʔ/ *naamurdʔèèši* 'I twisted it'. /ʔg/ *bʔargoo* 'marrow'. /ʔz/ *ʔarʔiki* 'good fortune'. /ʔj/ *naagurjèè jìkiinaa* 'I bruised myself'. /ʔr/ *tòòràrrii* 'bulls'. /ʔm/ *garmagarma* 'crazy'. /ʔn/ *ʔarṇaa* 'pagans'. /ʔʔ/ *farʔàà* 'jollity'.

¹⁶ Even should /p/ and /f/ be separate phonemes, probably only one (/f/) occurs phonemically in -CC- or as -C. Examples of both are given here due to the unsettled nature of the question.

CHART OF MEDIAL -CC- CLUSTERS

p	t	k	kʔ	s	sʔ	š	c	cʔ	f	h	b	bʔ	d	dʔ	g	z	j	r	l	m	n	w	y	ʔ
	pt	pk	pkʔ	ps		pš	pc																	
	tt	kk																				kw	ky	
	st	sk	skʔ	ss	ssʔ																	kʔw	kʔy	
						šš		cc	ccʔ													sw		
	ft	fk	fkʔ	fs		fš	fc		ff	hh	bb	bbʔ	bd	bdʔ	bg	bz		br						
													dd	ddʔ										
											zb				gg	zg	zz						dʔw	
																		jj	rr		rm	rn	rw	ry
	rt	rk	rkʔ	rs		rš	rc	rcʔ	rf	rh	rb	rbʔ	rd	rdʔ	rg	rg	rz	rj	rr	tt	rm			
lp	lt	lk	lkʔ	ls		lš	lc	lcʔ	lf	lh	lb	lbʔ			lg	lg	mz	lj		ll	lm	lw		
mp	mt	mk	mkʔ	ms	msʔ	mš	mc	mcʔ	mf	nh	mb	mbʔ	md	mdʔ			mz	mj	mr		mm	mn	mw	
	nt	nk	nkʔ	ns	nsʔ	nš	nc	ncʔ	nf				nd	ndʔ	ng	ng	nz	nj	nr	nl		nn	nw	ny
	wt	wk	wkʔ	ws	wsʔ	wš	wc	wcʔ					wd	wdʔ	wg	wg	wj	wr	wt		wn	wn	wy	
	yt	yk	ykʔ	ys	ysʔ	yš	yc	ycʔ	yf	yh	yb	ybʔ	yd	ydʔ	yg	yz	yj	yr	yt	yl	ym	yn	yw	yy
																							ʔy	

/lC/: *salpoo* (= *salfoo*) 'wheedle (?)'. /lt/ *sùltan* 'sultan'. /lk/ *sàlka* 'leather waterbag'. /lkʔ/ *kʔàlkʔaʃi* 'underneath'. /ls/ *halsooʃi* 'tongues'. /lš/ *halšèè* 'tongue'. /lf/ *ʔàlfadari* 'mule'. /lh/ *ʔàlhàrini* 'silk'. /lb/ *ʔàlbarkà* 'blessing'. /lb/ *bʔàlbʔàʃi* 'speck'. /lg/ *ʔàlgaytà* 'a wing instrument'. /lj/ *ʔàljannà* 'Jinn'. /ll/ *ʔallà* 'God'. /lm/ *ʔalmakaʃi* 'scissors'. /lw/ *ʔàlwasà* 'width of woven material', *walwaaʒi* 'a deer-like animal' (BD under *inyawara*).

/mC/: /mp/ *pàmpam* 'that's all'. /mt/ *ʔàzàdlùmtakà* 'oppression (?)'. /mkʔ/ *sàmkʔee* 'loincloth'. /ms/ *lumsaaʃi* 'opening and closing, alternant shining and clouding over of sun, etc.'. /msʔ/ *damsʔoocʔii* (pl. of *damcʔèè*) /ms/ *lùmšii* 'big cloud'. /mc/ *gùmci* *bààkinkà* 'fill your mouth!'. /mcʔ/ *damcʔèè* 'upper arm'. /mf/ *rùmfa* 'shed'. /mb/ *dambuubi* 'calf of leg'. /mbʔ/ *dumbʔuu* 'worn out implement'. /md/ *-yaagamdààka* 'it fits you'. /mz/ *gumzuu* 'wild pig'. /mj/ *gamʒi* 'gutta-percha tree' (BD). /mr/ *damroo* 'a variety of bulrush millet' (BD sub *dauro*). /mm/ *bammì* 'palm wine'. /mn/ *kʔàmnaa* 'love'. /mw/ *sʔumwà* 'rag'.

/nC/: /nt/ *ʔàmintaa* 'trust', *bàntee* 'loincloth'. /nk/ *cànkoo* 'bird trap'. /nkʔ/ *dankʔòò* 'gum'. /ns/ *bùnsuruu* 'goat'. /nsʔ/ *sʔunsʔuu* 'bird'. /nš/ *sunšifkàà* 'they sowed'. /nc/ *yaakwancèèʃi* 'he released him'. /ncʔ/ *yaaranʔèè* 'he swore'. /nf/ *ʔànfààni* 'usefulness'. /nh/ *sunhàyfeetà* 'they bore her'. /nd/ *bindigà* 'gun'. /ndʔ/ *tàkàndʔaa* 'sugar cane'. /ng/ *ʔangòò* 'bridegroom'. /nz/ *banzaa* 'foolishness'. /nj/ *yaarinjààyeèʃi* 'he overpowered him'. (/nr/ *sunrifèèʃi* 'they opened it'. /nr/ *sunruudʔèè* 'they're confused'. /nl/ *sunlullùb-ʔeeta* 'they veiled her'. /nn/ *sunnnèemeeʃi* 'they charmed him'. /nw/ *dʔan-waakèè* 'dumplings' (see BD). /ny/ *yaarinya* 'girl'. /nʔ/ *wanʔin* 'that'.

/wC/: /wt/ *ʔàwtaa* 'the youngest'. /wk/ *hàwkaa* 'wrath'. /wkʔ/ *sawkʔii* /ws/ *tàwsay* 'compassion'. /ws/ *sʔàwsʔay* 'accident'. /ws/ *bawšii* 'a tree'. /wc/ *kàcawcawa* 'bells tied to ankle or knee when dancing'. /wcʔ/ *sàwcʔii* 'glossiness'. /wd/ *dàwdawaa* 'a flavoring for soup'. /wdʔ/ *gawdʔèè* 'a thorny shrub' (BD). /wg/ *gawgawa* 'something heavier than one can manage'. /wj/ *bawjee* 'an edible root'. /wr/ *bʔawree* 'rough-leaved fig tree' (BD). /wʔ/ *ʔawràà* 'a light colored donkey' (BD). /wn/ *bʔawnaa* 'water buffalo'. /ww/ *wàwwoo* 'name of child born on New Year's', *nawwii* 'weight, heaviness'. /wy/ *hawyaa* 'hoe'.

/yC/: /yt/ *ʔàlgaytà* 'a wind instrument'. /yk/ *ʔaykii* 'work'. /ykʔ/ *maykʔòò* 'grease'. /yš/ *màysaa* 'one who places'. /ysʔ/ *màysʔaawoo* 'a long one'. /ys/ *naakayšii* 'I took him'. /yc/ *kaycoo* 'too bad'. /ycʔ/ *màycʔaa-wuryaa* 'one with leucoma'. /yf/ *sayfàà* 'spleen'. /yh/ *màyhimma* 'ambitious one'. /yb/ *ʔàyba* 'banana'. /yb/ *saybʔii* 'unpopularity'. /yd/ *saydààwaa* 'selling'. /ydʔ/ *madʔaydʔay* 'syrup made from dried fruit' (pl.). /yg/ *bàygani* *bà* 'he didn't see'. /yz/ *tuuzàyzay* 'bustards'. /yj/ *bàyji ba* 'he didn't hear'. /yr/ *gàràray* 'white ants'. /yr/ *màygramà* 'scorpion' (lit. 'one with sting'). /yl/ *màylabʔèèwaa* 'eavesdropper'. /ym/ *ʔaymaka* 'a red insect'. /yn/ *màray-nìyaa* 'orphan' (f). /yw/ *maywaa* 'a fruit', *gaywaa* 'eel'. /yy/ *jààyayyee* 'red ones'. /yʔ/ *màyʔamoo* 'that which makes a report or noise'.

/ʔy/: *ʔyaaʔyaa* 'children'.

Medial clusters of three consonants include all initial clusters preceded by *n* or *y* since they may be preceded by *n(a)*, *may-* 'one with' or (in the case of verbs) by *sun-*, *bay-*, etc. We have, then:

/nkʷ/	/nky/	/nsw/	/ykw/	/yky/	/ysw/	/yʔy/
/nkʔw/	/nkʔy/	/nsʔw/	/ykʔw/	/ykʔy/	/ysʔw/	
/ngw/	/ngy/	/nzw/	/ygw/	/ygy/	/yzw/	

Examples of some of these not with *na* or *may* are: /nkʷ/ *munkwabʔèèši* 'we released him', /nky/ *kyànkʷandii* 'duffel bag', /nkʔw/ *taalankʔwàšèè* 'it bent', /nkʔy/ *kʔyànkʔyasà* 'hatching', /ykw/ *càkwaykwaywà* 'starling' (BD), /ykʔw/ *bàykʔwàntàleeši bà* 'he didn't dig him with his fingernail'.

Besides these the following clusters were noted:

/lkʷ/ /lkʔw/ /lky/ /lkʔy/ /lgr/ /rkʷ/ /rgw/ /wky/ /kkw/ /ngl/

Examples: /lkʷ/ *kwalkwatà* 'louse'. /lkʔw/ *naakʔwalkʔwàleeši* 'I stripped him of hair'. /lky/ *ʔalkyabbà* 'a burnous' (BD). /lkʔy/ *kʔyàlkʔyàli* 'glitter'. /lgr/ *tàlgràafòò* 'telegraph'. /rkʷ/ *kwarkwaroo* 'a weaver's bobbin' (BD). /rgw/ *naàragwargwàjeeši* 'I'll smash him to bits' (= *naàragargàjeeši*). /wky/ *kyàwkyaaawaa* 'goodness, fineness'. /kkw/ *tùkkwi* 'Great horned owl'. /ngl/ *ʔinglìs* 'English'.

CHAPTER II

PHONOLOGIC ALTERNATION AND MORPHEME VARIANTS

2.1. Morpheme types. Hausa morphemes are composed of the following sequences:

1. Sequence of two or more linear phonemes or morphophonemes.

E.g. Verb base: *soo-* 'want' *z-* 'be on one's way'

Affix: *-ii* (plural)

CVC- (a reduplicative morpheme; see 3.3.2)

2. Sequence of one or more tone units as pattern.

E.g. Noun patterns: `` (all tones low until the last), '' (all tones high), `` (all tones high until the last), etc. See 3.1.2.

Verb patterns: ', ', ', ', etc. These are not single patterns but are tone sets with regularly conditioned patterns. See 3.1.2 and 4.5.

3. Sequence of two or more linear phonemes plus tone pattern.

E.g. Noun base: *gaašù* 'hair'

Particles: *toò* 'so!' *dà* 'with'

For lists of these sequences see the dictionary and also below (noun bases and affixes, Chapter III; verb bases and affixes, Chapter IV).

2.2. Regular phonologic alternation.

2.2.1. Morphophonemes involved. The rules governing these are operative when a morpheme or sequence of morphemes occurs before open juncture /*ʃ*/. The phonemes and morphophonemes involved are:

/t/ *T* /z/ *Z* /n/ *N* (n) /y/ *Y* /e/ *E* (e) /i/ *I*

/d/ *D* /f/ *F* /m/ *M* /o/ *O* /a/ *A*

Affix juncture: /-/

Phonemes without corresponding morphophonemes: /s/ /sʔ/ /w/

2.2.2. Palatalization. Before affix juncture plus /i, e/ the following replacements take place:

/t/ is replaced by /c/, /tt/by/cc/.

E.g. **bawt-ii bawcii* 'Bauchi' (proper name), **bawt-aawaa bawtaawaa* 'inhabitants of Bauchi'. *šaāt-* 'to comb': **ma-šaāt-ii mašaaccii* 'a comb', **šaāt-èè* (verb form) *kàšaaccèè sùùmakka* 'comb your hair!'. *bʔaat-* 'to spoil': **bʔaat-i* (verb form) *yaabʔaaci* 'he's spoiled'. **ʔitt-èè ʔiccèè* 'tree', pl **ʔit-dà-t-ee ʔitdàcee*.

T is optionally replaced by /t/ or /c/. One example noted: *feeT-* 'to fan': **ma-feeT-ii mafeetii* or *mafeecii* 'a fan'.

D is replaced by /d/ in all positions.

E.g. -*D-* (verb stem formative; see §4.2.3): *baa-* 'to give', **baa-D-* 'to give away': **baa-D-àà* (verb form) *yaabaadààšii* 'he gave it away', *baadààwaa* 'giving something away', **ma-baa-D-ii mabààdii* 'one who gives away'. **cʔààD-aa cʔààdaa* 'expensiveness', pl. **cʔaadD-oD-ii cʔaadoodii*.

/dd/ is replaced by /cc/.

One example noted: **bʔadd-* 'to lose' **bʔadd-èè* (verb form) *yaabʔaccèè* 'he's lost', but **bʔadd-àà yaabʔaddààšii* 'he lost it'.

/d/ is otherwise replaced by /j/.

E.g. *gid-aa gidaa 'house', also *gid-ìì gijìì; pl. of both: *gid-ààd-ee gidààjee. *k²und-àà k²undàà 'an arrow with a slug head', pl. *k²und-ood-ii k²undoojii.

/s/ is replaced by /š/, /ss/ is replaced by /šš/.

E.g. buus- 'to blow': *ma-bùùs-ii mabùùšii 'player of a wind instrument', pl. *ma-bùùs-aa mabùùsaa; *bùùs-ass-ee bùùsaššee 'a dried thing'. *dààmìs-ìì dààmìšìì 'leopard', f. *dààmìs-àà dààmìsàà.

/sʔ/ is replaced by /cʔ/.

E.g. ransʔ- 'to swear an oath': *ransʔ-èè yaarancʔèè 'he swore an oath', *ransʔ-uwaa ransʔuwaa 'swearing'. *duwsʔ-ìì duucʔìì 'rock', pl. *duw-àà-sʔ-uu duwààsʔuu.

/z/ is replaced by /j/.

E.g. z- 'to be on one's way': *z-ee yaajee 'he went', *z-oo yaazoo 'he came'. *giz-òò gizòò 'spider (in folklore)', pl. *giz-ààz-ee gizààjee. ciiz- 'to bite': *ma-ciiz-ii maciijii 'snake' (lit. 'biter'), *ciiz-òò ciizòò 'biting', *ciiz-èè yaaciijeeni 'he bit me'.

Z is replaced by /z/ in all positions.

E.g. *kùz-aa kùzaa 'Tin ore' (BD), pl. *kuz-ooz-ii kuzoozii.

/w/ is replaced by /y/.

E.g. *baaw-àà baawàà 'slave', pl. *baaw-ii baayii. *bʔàraaw-òò bʔàraawòò 'thief', pl. *bʔàrààw-ii bʔàrààyii.

2.2.3. Nasals.

/n/ is replaced by /m/ before close or affix juncture plus /b/, /bʔ/, [p], /f/, or /m/. For na in the following examples see §2.3.4.

E.g. *gid-aa na barcii gidambarcii 'hotel' (lit. 'house of sleep'). bʔaar- 'to peel': *CVn-bʔaar- bʔambʔar- 'to shell' bʔàmbʔaràà 'shelling'. *yaa na maat-aa yammaataa 'young women' (lit. 'children of women'). *runfaa ta paawàà If the /f/ of runfaa is [p]: rùmpappaawàà; if it is [h*]: rùnfappaawàà, 'butcher's mart'. *dʔaa na paawàà dʔampaawàà 'butcher' (lit. 'son of the butcher's trade').

N is replaced by /m/ before /ʃ/ and /-i/, by /n/ elsewhere. Noted in one morpheme only: *mùtuN mùtum 'person', pl. *mut-àà-N-ee mutàànee; *mùtuN-ciì mùtuncii 'respect'; with na: mùtumindaajì 'bushman'.

(n) is replaced by zero before /ʃ/, the preceding vowel being lengthened; by /n/ elsewhere.

E.g. *kànti(n) kàntii 'canteen, store', pl. *kànti(n)-ay kàntinay. *kantu(n) kantuu 'block of salt', pl. *kàntù(n)-ay kàntùnay.

/m/ is replaced by /n/ before /k, g/ before close or affix juncture.

E.g. *tum-k-iyaa tunkiyaa 'ewe', pl. *tum-aa-k-ii tumaakii. *gam- 'to put together': *ma-CVC-gam-ii magangamii 'crossroads'.

M is replaced by /n/ before /ʃ/, by /m/ elsewhere.

E.g. *lìmaamM lìman, variant lìmaamù 'Imam', pl. *lìmaàM-ay lìmaàmay. *maalàM maalàn 'a Mohammedan teacher', pl. *maalàM-ay maalàmay.

2.2.4. Semivowels.

Y is replaced by /w/ before /o/.

E.g. say- 'buy': *sày-aa yaasàyaa 'he bought (something)', *say-oo kàsawoošì 'buy it (and bring it here)'. kaay- 'to bring': *kaay yaakayšì 'he brought it', *kaay-oo kàkaawoošì 'bring it here!'

Vy is replaced by VV before syllabic initial CC in affix juncture, by V before CC in affix juncture otherwise.

E.g. **kwi-yoo* **kwi-y-kwi-y-dò* *kwiikwi-yò* 'puppy', pl. **kwi-yà-d-kwi-y-ay* *kwi-yà-d-kwi-y-ay*. **s²àws²ay s²àws²ay* 'disaster', **s²àws²à-y-ntakà s²àws²à-ntakà* 'state of injury'. *ka-y* 'head' **ka-y-na-kà ka-ñkà* 'your head'.

/V-i/ is replaced by /Vy-i/.

E.g. *jaa-* 'pull': **ma-jà-d-ii majà-d-yii* 'one who pulls'. *soo* 'to want': **ma-sò-d-ii masò-d-yii* 'one who wants, lover'.

/V-o/ is replaced by /Vwo/.

E.g. *jaa* 'to pull': **jaa-oo jà-dwo-ši* 'pull it!'

2.2.5. Replacement of /r/ by /r̥/.

/rt/, /rn/ and /r #/ are replaced by /r̥t/, /r̥n/ and /r̥ #/ respectively.

E.g. *bar-* 'to leave', **bar yaabar gidaa* 'he left the house'. *yaabar-ši* 'he left it' (*yaabar-ši*),¹ but **bar-i kadàkàbari* 'don't leave it'. **kàr-ee kàree* 'dog', pl. **kar-nukà kar-nukà*.

2.2.6. /f/, F.

/f/ remains /f/ in all positions.

E.g. **k²af-à-d k²af-à-d* 'foot', pl. **k²af-oo-f-ii k²af-oo-f-ii* or **k²af-à-yf-ay k²af-à-yf-ay*.
F is replaced by /h/ before /-a/.

E.g. **²arF-aa ²arhaa* 'cheapness', pl. **²arF-ooF-ii ²arfoofi*. **kiiF-ii kiifi* 'fish', pl. **kiiF-à-d-ye kiih-à-d-ye*. **²àràF-iy-à-d ²àrà-fiy-à-d* 'fine thread', pl. **²àràF-ay ²àràhay*.

2.2.7. Vowels in closed syllables.

Before /C #/ and /CC/ other than those listed in 1.14.3 (compare replacement of Vy in 2.2.4) the following replacements take place:

/ii/, /uu/, and /aa/ are replaced by /i/, /u/, and /a/ respectively.

/ee/ is replaced by /a/.

/oo/ is replaced by /wa/ after /k, k², g, d/, by /a/ elsewhere. Before /naC/ the last two (/ee/ and /oo/) sets of changes are optional.—For example:

/ii/ ~ /i/. *daad²ii* 'pleasure', **dà-d²i-ntakà dà-d²i-ntakà* 'pleasantness'.
tà-d-fii 'palm or sole', **tà-d-fii na hannuu tà-d-fin-hannuu* 'palm of the hand'.

/uu/ ~ /u/. *muug-²ii* 'an evil person', **muug-²ii-ntaa muug-²ii-ntaa* 'evil' (for *muug- muug-* see 2.3.2). *hannuu* 'hand', **hannuu na ha-²ii hannun-ha-²ii* 'left hand'.

/aa/ ~ /a/. *saa²à-d* 'luck', **sà-d²à-d-ntaa sà-d²à-d-ntaa* 'luck'. *mà-d-²aa* 'woman, wife', **mà-d-²aa ta ši m-à-d-²a-ši* 'his wife'. **là-d-²aa na là-d-²aa* 'muezzin', also *là-d-²aa-²ii*.

/ee/ ~ /a/. *gà-j-²ee* 'a short one', **gà-j-²ee-²aa gà-j-²ee-²aa* 'shortness'. *c²i-²nk-²è* 'a pointed object', **c²i-²nk-²è-²ntakà c²i-²nk-²è-²ntakà* 'pointedness'. *zaw-²è* 'reception hall', **zaw-²è na ²àl-²ka-²ii zaw-²è-²àl-²ka-²ii* or *zaw-²à-²àl-²ka-²ii* 'the judge's reception hall'.

/oo/ ~ /wa/, /a/. **k²oor-²aa k²w-²aa* 'a large calabash', pl. **k²oor-²in-à k²oor-²in-à*. *mò-d-²ii-²aa* 'usefulness', **CVC-moor-²aa mammoor-²aa* 'usefulness'. *doogoo* 'long', **doogoo na k²w-²ab-²ii doogw-²ab-²ii* 'a long shin'; **doogoo na guur-²ii doogoo-gu-²ii* 'a long hope'. *tà-d-koo* 'hoof', **tà-d-koo na k²af-à-d tà-d-koon-k²af-à-d* or *tà-d-kw-²ab-²ii k²af-à-d* 'hoof of the foot'. **²i-d-²ò* 'eye', **²i-d-²ò na k²af-à-d ²i-d-²ò-²nk²af-à-d* or

¹ *bar-* is replaced by *bar* before / #/. The resulting *bar* is used throughout the paradigm, even when suffixes in close juncture follow.

ʔidwànkʔafàà 'ankle' (lit. 'eye of the foot'), **ʔidòò na mààgee ʔidòòmmààgee* 'a kind of shiny green bead' (lit. 'cat's eye').

Note: This change of phonemes takes place after the replacement by palatalization in 2.2.2 so that, for example, *dàšee* [**dàs-ee*] 'transplanting' retains the phoneme /š/ in **dàšee na ʔiccèè dàšanʔiccèè* 'the transplanting of a tree'.

2.2.8. Morphophonemes *E*, (e), *O*, *A*, *I*. These occur in verb bases of CVC pattern.

E is replaced by /ii/ before *-aa* (noun base formative, 3.2.3), by /ee/ elsewhere: *fEdʔ-* 'to flay', **fEdʔ-àà fiidʔàà* 'flaying', **ma-fĒdʔ-ii mafèèdʔii* 'flayer, pl. *mafèèdʔaa*. *fĒr-* 'to chip bits from', **fĒr-àà fiiràà* 'chipping bits from', **ma-fĒr-ii mafèèrii* 'one who decorates calabashes by chipping off little bits', **fĒr-ee šinà fèereenduucʔii* 'he's chipping rock'.

(e) is replaced by /ii/ before *-aa* (verb stem formative, 4.1.2), by /ee/ elsewhere: *ʔ(è)b-* 'to take from', **ʔ(e)b-àà yaaʔiibàà* 'he fetched a little', **ʔ(è)b-ee/-i yaaʔèèbeeši* 'he fetched a little of it' *kàʔèèbì ruwaa* 'fetch a little water!' ('fetch' in these examples means 'take some from', as water from the well).

O is replaced by /uu/ before *-aa*, *-aCCee* (noun formatives, 3.2.3), by /oo/ elsewhere: *kOk-* 'to cry', **kOk-aa kuukaa* 'crying', **ma-kOk-ii makookii* 'house of mourning', **kOk-àà* 'to cry' (verb stem) *yaakookàà* 'he cried'. *kOdʔ-* 'to sharpen a tool', **kOd-àà kuudʔàà* 'sharpening a tool', **kŌdʔ-aCCee kùudʔaddʔee* 'a sharpened one', **ma-kŌdʔ-ii makòdʔii* 'one who sharpens tools', **kOdʔ-àà* (verb stem) *naakoodʔààta* 'I sharpened it'.

A is replaced by /i/ before *-ii* (noun formative, 3.2.3), by /a/ elsewhere: *kAs-* 'to kill', **kAs-ii kišii* 'killing', **kAs-èè* (verb stem) *yaakašèèši* 'he killed him'. *rAs-* 'lack' (BD), **rAs-ii rišii* 'lack' (noun) as in *màyrìšìnkunyà* 'one who lacks shame, shameless person', **rAs-àà* (verb stem) *yaarasààni* 'he lost me'. *kAdʔ-* 'to beat' **kAdʔ-ii kidʔii* 'beating', **ma-kĀdʔ-ii makàdʔii* 'one who beats'.

I is replaced, apparently optionally, by /u/ or /i/: *rIf-* 'to cover', **rIf-àà* (verb stem) *rùfaani dà bàrgoo* 'cover me with a blanket', **rIf-èè* (verb stem) *naarifèè gidaanaa* 'I closed my house', **rIf-ee* (verb stem) *ʔinà soombàrgoo širifeeni* 'I want a blanket to cover me', *rùfeeni* 'cover me!', **rIf-aa* 'covering' *màyrufaʔʔidòò* 'sleight of hand expert' (lit. 'eye-closer').

2.3. Variants of individual morphemes.

2.3.1. Noun variants before open juncture. Some nouns have more than one base used in parallel. Such are: *lààdan*, *lààdaani* 'muezzin'; *lààdan*, but not *lààdaani*, may also be used as a personal name. *liyar*, *liyaari* 'Maria Theresa dollar' (BD). *šàrif*, *šàriifi* 'one who claims descent from Mohammed' (BD). *mùtum*, *mùtumi* 'person'. The forms in *-i* are found before *na*, as *mùtumìndaajii* 'bushman'. *ʔarnèè* pl. *ʔarnaa*, *ʔannèè* pl. *ʔannaa* 'pagan'. (Replacement of /r/ by /n/ before /n/ may belong on the phonologic, not the morphemic, level.) *ʔabdùgàà*, *ʔaddùgàà* 'cotton'.

2.3.2. Noun variants before affix juncture /-/. A large number of morphemes have replacement forms before affix juncture. The following were noted: *ʔàbookii* 'a friend' ~ (is replaced by) *ʔabuk-* before *-ay*: *ʔàbùkay* 'friends', by *ʔabu-* before *-taa*: *ʔàbùtaa* 'friendship', optionally by *ʔab-* before *-iyaa*: *ʔàbookiyàà*

'friend' (f.) and *ʔābiyàà* (*ʔābiyàà* is to be preferred, as *ʔābookiyàà* has bad connotations; this is reversed in some dialects). *ʔākwiyàà* 'she goat' ~ *ʔaawk-* before *-ii* (pl.): *ʔaawaakii* 'she goats'. *dookii* 'horse' ~ *daawk-* before *-ii* (pl.): *daawaakii*. *buuzuu* 'runaway Tuareg slave' ~ *bugz-* before *-ee* (pl.): *bugààjee*. (For the last three examples see 3.6.4, 5.) *dʔaa* 'child' ~ *ʔy-* before *-aa* (pl.): *ʔyaaʔyaa*. *falkee* 'trader' ~ *falk-* before *-ee* (pl.): *fatààkee*. *kay* 'head' ~ *kaan-* before *-uu* (pl.): *kaanuu*. *kudʔii* 'money' ~ *kurɖ-* before *-aayee* (pl.): *kurɖʔàayee*. *muugùù* 'evil one' ~ *mugu-* before *-nyaa* and *-ntaa*: *mugunyàà* 'evil one (f.)' *mùgùntaa* 'evil'. *saà* 'ox' ~ *saan-* before *-uwaa*: *saanuwaa* 'cow', *šaan-* before *-uu* (pl.): *šaanuu* 'cattle'. *sarkii* 'king' ~ *saraw-* before *-niyaa* and *-taa*: *sàrawniyaa* 'queen', *sàrawtàà* 'government'. *sarmàyi* 'young man' ~ *samaar-* before *-ii* (pl.): *sàmààrii*. *šèetan* ~ *šeedʔan-* before *-Cuu* (pl.): *šèèdʔànnuu*. *wàà* 'older brother' ~ *yayy-* before *-ee* (pl.): *yayyee*. *zazzàw* 'Zaria' (place name) ~ *zazzag-* with *ba—ee* and *-aawaa*: *bàzazzagèè* 'native of Zaria', pl. *zazzagaawaa*.

2.3.3. Pronoun alternants. The following chart gives the variants of the personal pronouns (and the impersonal *ʔa*). No form is given twice, a blank indicating that the form is the same as the last given. A dash indicates that the form does not occur (was not recorded) in that position. In this way each form and its uses are readily seen. For example *ta* is used before *na* and *kèè*, sometimes after verbs, and after *na-*. For *šii* (and *ʔa*) optional variants are given and the occurrence or non-occurrence of each plotted. An asterisk indicates that the tone varies and is determined by the context. Otherwise the tone is given by the spelling of the form in the chart.

An interesting line of division is that between the pronouns in Group 2 which add a vowel and those which add an *n*. The forms of those with *n* are more regular throughout than those with double vowels. The impersonal *ʔa* has both and forms a separate classification. The order of pronouns in the chart is on the basis of this division. *ʔita* and *kay* are placed next to the *n* group because of the similar distribution of variants.

Groups 2, 10, 11 refer to variants before verbs. These variants are pronominal prefixes, forming the different tenses or aspects of the verb. The tense or aspect is indicated by the pronominal accent pattern, which also conditions the form of the pronoun. These accent patterns are: ' ' perfective, ' ' future, ' optative. ' is used with the negative *bà* (11) for negative perfective and with *zad-* (11) for future. Note that in this analysis there is no 'present' or 'progressive' tense or aspect of the verb. This is analyzed as a pronoun-*na*-noun construction and represented by Group 3 pronouns plus *na* plus a noun. (See 2.3.4)

Chart of Pronoun Alternants²

	'I'	'he'		'she'	'you'	'you'	'we'		'you'	'they'	impers
					(sg.m.)	(sg.f.)			(pl.)		
² A pronoun chart based on Abraham (MGSH) may be added for comparison:											
1.	nii	—	šii	—	—	—	—	ʔita	kay	—	kee — muu kuu suu —
2.	—	—	—	—	—	ŷ	—	—	—	—	—
*3.	naa	—	—	—	yaa	—	—	taa	—	kyaa — maa	kwaa saa ʔaa
4.	—	—	—	—	—	—	—	—	kin —	mun kun sun	ʔan

1.	<i>nii</i>	<i>šii</i>	—	—	<i>ʔita</i>	<i>kay</i>	<i>kee</i>	<i>muu</i>	<i>kuu</i>	<i>suu</i>	—	—
*2.	<i>naa</i>	—	<i>yaa</i>	—	<i>taa</i>	<i>kaa</i>	<i>kin</i>	<i>mun</i>	<i>kun</i>	<i>sun</i>	<i>ʔan</i>	<i>ʔaa</i>
3.	<i>ʔi</i>	<i>ši</i>	<i>ya</i>	<i>yi</i>	<i>ta</i>	<i>ka</i>	<i>ki</i>	<i>mu</i>	<i>ku</i>	<i>su</i>	—	<i>ʔa</i>
4.	<i>nì</i>										—	
5.			—	—							—	—
*6.	zero		—	—							—	—
7.	<i>wa</i>	<i>ši</i>	—	—	<i>tà</i>	<i>kà</i>	<i>kì</i>	<i>mù</i>	<i>kù</i>	<i>sù</i>	—	—
8.	<i>nì</i>		—	—							—	—
9.			<i>yà</i>	—							—	<i>ʔà</i>
10.	<i>ʔin</i>			—							—	
11.	<i>ṇ</i>	—	<i>ṽ</i>	—							<i>ʔàn</i>	
12.	—	—	—	—	—	—	—	—	—	—	—	—

Context:

1. in *P#, before *-nee*.
2. with ' ', ' ' before verbs.
3. before *na*
4. before *kèè*, *kà*
5. Sometimes after verb.
6. after *na*
7. after *na-*.
8. after *ma-*, sometimes after verb.
9. after *baà*, *zaà*.
10. with ' ' before verbs.
11. with ' ' after *bà-* and *zaà-* before verbs.
12. after *mà-*.

Examples (in paradigm form where convenient):

1. *kùzoo dà nii* 'come with me'. *ninèè* 'it's I'. *naagàmu dà šii* 'I met (with)

5.	<i>nì</i>	<i>na</i>			<i>ya</i>	—	<i>yi</i>	<i>i</i>	<i>ta</i>	<i>ka</i>	—	<i>ki</i>	—	<i>mu</i>	<i>ku</i>	<i>su</i>	<i>ʔa</i>
6.	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7.	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8.		—	<i>ši</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
*9.		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10.	<i>n</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11.	<i>nì</i>	<i>ṇ</i>	<i>sì</i>	<i>sà</i>	<i>s</i>	—	—	—	<i>tà</i>	<i>kà</i>	<i>a</i>	<i>kì</i>	<i>a</i>	<i>nà</i>	<i>kù</i>	<i>sù</i>	—
12.	—	—	—	—	—	<i>yà</i>	—	<i>yì</i>	<i>i</i>	—	—	—	—	<i>mù</i>	—	—	<i>ʔà</i>
13.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15.	zero	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16.	<i>wa</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Uses and references:

1. Before *. Independent pronoun. MGS 30.
2. After *mà-*; MGS 33.
3. With ' ' after *baa*, with ' ' before verbs; MGS 15, 74, 154.
4. With ' ' before verbs; MGS 11, 12, 154.
5. Before *kèè*, *kà*; MGS 85, 155.
6. Before *kà* (*kì* to *ʔa*) or verb (*na* to *ka*); MGS 85f, 156.
7. Before *kàn*; MGS 13, 154.
8. After (as alternate) *baà*, *zaà*; MGS 14, 15, 17.
9. After verb; MGS 32.
10. Before *nàà*; MGS 14, 155.
11. After *ma-*; MGS 32.
12. With ' ' before verbs; MGS 12, 13.
13. After *zaa-* (*zaà-*); MGS 13.
14. After *bà*; MGS 16.
15. After *na*, *ta*; MGS 30.
16. After *na-*; MGS 31.

him'. *kòòmoo ?ita* 'like her'. *kay kaasanši* 'you know him'. *kee kinsani?* 'do you (f.) know?' *mùtumìnkòòmoo muunèè* 'they are men like us'. *nii ?inà tàmaanì* // *kòòmoo kuu biyuunèè* 'I thought there were two of you'. *yaayi màgàndà dà suu* 'he talked with them'.

2. Verb prefixes (tone patterns ', ' '). 5. Verb object (8. Verb object with low tone, optional). No particular order is used with the pronoun objects. The order of prefix forms is the traditional one.

<i>naakaamàdàši</i> 'I seized him'	<i>munkaamàdàsu</i> 'we seized them'
<i>kaakaamàdàni</i> 'you seized me'	<i>kunkaamàdàmu</i> 'you (pl.) seized us'
<i>kinkaamàdàta</i> 'you (f.) seized her'	
<i>yaakaamàdàka</i> 'he seized you (m.)'	<i>sunkaamàdàku</i> 'they seized you (pl.)'
<i>?aakaamàdàši</i> 'he was seized'	<i>?anhàyfeenì</i> 'I was born'
<i>naàkaamàdàši</i> 'I'll seize him'	<i>muñkaamàdàsu</i> 'we'll seize them'
<i>kaàkaamàdàni</i> 'you'll seize me'	<i>kunkaamàdàmu</i> 'you (pl.) will seize us'
<i>kinkaamàdàta</i> 'you (f.) will seize her'	
<i>yaàkaamàdàka</i> 'he'll seize you'	<i>sunkaamàdàku</i> 'they'll seize you (pl.)'
<i>taàkaamàdàki</i> 'she'll seize you (f.)'	
<i>?adàyišì</i> 'it will be done'	

3. Pronoun-na-noun

<i>?inà zuwà</i> 'I'm coming'	<i>munà zuwà</i> 'we're coming'
<i>kanà zuwà</i> 'you're coming'	<i>kunà zuwà</i> 'you (pl.) are coming'
<i>kinà zuwà</i> 'you (f.) are coming'	
<i>šinà (yanà, yinà) zuwà</i> 'he's coming'	<i>sunà zuwà</i> 'they're coming'
<i>tanà zuwà</i> 'she's coming'	
<i>?anà ruwaa</i> 'it's raining'	

4. Pronoun plus *kee* or *ka* (rare)

<i>hakàà nìkèè</i> 'thus I am'	<i>hakàà mukèè</i> 'thus we are'
<i>bisà kakèè</i> 'you are on top'	<i>hakàà kukèè</i> 'thus you are'
<i>hakàà kìkèè</i> 'thus you (f.) are'	
<i>hakàà šìkèè (yakèè, yikèè)</i> 'thus he (it) is'	<i>?ābin//dà sukèè yū</i> 'the thing they're doing'
<i>takèè bid?aa</i> 'she's hunting'	
<i>k?àà ?akèè kirankà</i> 'what (how) are you called?'	

sukà taaràà 'they assemble'

6. *na* and *ta* plus pronoun (see 2.3.4).

<i>?ùbaanaa</i> 'my father'	<i>?ùwaataa</i> 'my mother'
<i>?ùbankà</i> 'your father'	<i>?ùwakkà</i> 'your mother'
<i>?ùbankì</i> 'your (f.) father'	<i>?ùwakkì</i> 'your (f.) mother'
<i>?ùbanši</i> 'his father'	<i>?ùwašši</i> 'his mother'
<i>?ùbantà</i> 'her father'	<i>?ùwattà</i> 'her mother'
<i>?ùbammù</i> 'our father'	<i>?ùwammù</i> 'our mother'
<i>?ùbankù</i> 'your (pl.) father'	<i>?ùwakkù</i> 'your (pl.) mother'
<i>?ùbansù</i> 'their father'	<i>?ùwassù</i> 'their mother'

Tone on all but *naa* and *taa* may be high or low. It is usually low.

7. After *na-*. (see 2.3.4).

<i>nààwa</i> 'mine (man speaking)'	<i>naamù</i> 'ours'
<i>tààwa</i> 'mine (woman speaking)'	
<i>naakà</i> 'yours (possessor sg. m.)'	<i>naakù</i> 'yours (possessor pl.)'
<i>naakì</i> 'yours (possessor sg. f.)'	
<i>naaši</i> 'his'	<i>naasu</i> 'theirs'
<i>naatà</i> 'hers'	

8. After *ma-*, *gàree*, sometimes after verb (see above under 2).

<i>manì</i> 'to me'	<i>mamù</i> 'to us'
<i>makà</i> 'to you'	<i>makù</i> 'to you' (pl.)
<i>makì</i> 'to you' (f.)	
<i>maši</i> 'to him'	<i>masu</i> 'to them'
<i>matà</i> 'to her'	

kàbaani ʔàràntakà *gàreekà* 'loan me something of yours'
kudʔii *nawà* *gàreeši*ʔ 'how much money does he have?'

9. After *baà*, *zaà-*.

<i>baàni</i> <i>zuwà</i> 'I'm not coming'	<i>baàmù</i> <i>zuwà</i> 'we're not coming'
<i>baàkà</i> <i>zuwà</i> 'you're not coming'	<i>baàkù</i> <i>zuwà</i> 'you (pl.) aren't coming'
<i>baàkì</i> <i>zuwà</i> 'you (f.) aren't coming'	
<i>baàši</i> (<i>baayà</i>) <i>zuwà</i> 'he's not coming'	<i>baàsu</i> <i>zuwà</i> 'they're not coming'
<i>baàtà</i> <i>zuwà</i> 'she's not coming'	
<i>baàʔà</i> <i>sàà</i> <i>makà</i> <i>surɖii</i> 'a saddle won't (i.e. can't) be put on you'	

<i>zaàni</i> 'I'm going'	<i>zaàmù</i> 'we're going'
ʔinaa <i>zaàkà</i> ? 'where are you going?'	<i>zaàkù</i> 'you're going'
<i>zaàkì</i> 'you (f.) are going'	
<i>zaàši</i> (<i>zaàyà</i>) 'he's going'	<i>zaàsù</i> 'they're going'
<i>zaàtà</i> 'she's going'	
<i>zaàʔà</i> <i>yaakʔii</i> 'there'll be war (lit. one will fight)'	

10. With ' before verbs.³

ʔinzoo 'that I come'	<i>mùzoo</i> 'that we come'
<i>kàzoo</i> 'that you come', 'come!'	<i>kùzoo</i> 'that you (pl.) come', 'come!'
<i>kìzoo</i> 'that you (f.) come', 'come!'	
<i>šizoo</i> 'that he come'	<i>sùzoo</i> 'that they come'
<i>tàzoo</i> 'that she come'	
ʔàgoodèè <i>makà</i> 'thank you' (may one thank you)	

Examples in context: *mùbar fadʔàà wannàn* 'let's leave (i.e. quit) this fighting'.
yaaceè // *kùbar*, ʔaykingoonaa // *kùzoo dà nii* 'he said "Leave the working of the farm. Come with me" '.

11. With ' after *bà-* and *zaà-* before verbs.

³ This is the form used after *kadà*.

<i>bànzoo ba</i> 'I didn't come'	<i>bàmùzoo ba</i> 'we didn't come'
<i>bàkàzoo ba</i> 'you didn't come'	<i>bàkùzoo ba</i> 'you (pl.) didn't come'
<i>bàkìzoo ba</i> 'you (f.) didn't come'	
<i>bàyzoo ba</i> 'he didn't come'	<i>bàsùzoo ba</i> 'they didn't come'
<i>bàtāzoo ba</i> 'she didn't come'	
<i>bàʔànkwaanaa dà muu ba</i> 'they didn't sleep with us', 'we weren't slept with'	

With *zaa-* examples were not so common.

<i>mìi zaànyì</i> 'what should I do?' <i>mìineenèè // zaàkàyi?</i> 'what are you go- ing to do?' <i>zaàyhbreekà</i> 'he'll kick you' <i>zaàʔàkašèèšì</i> 'he will be killed'	<i>zaamùwankèè zanì</i> 'we'll wash the clothes' <i>mìineèè // zaàkùcèè</i> 'what will you say?' <i>zaàsùkašèèšì</i> 'they'll kill him'
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12. Only two pronominal forms occur after *mà-: y* and *sù*. The combination *mày-*, pl. *mààsù-*, means 'one who has', followed by a noun or its equivalent. E.g. *màymantuwaa* 'one who has forgetfulness', i.e. 'a forgetful person', pl. *mààsumantuwaa*; *mààsùkašèè mutààneenèè* 'they're people who kill men'.

2.3.4. *na, ta*.⁴

Using the symbol *C*¹ for a consonant identical with the following consonant and a hyphen to indicate affix juncture, we have these forms and constructions.

<i>na:</i>	noun <i>n</i> noun / pronoun / phrase pronoun / noun <i>nà</i> noun / adverb / phrase <i>nà</i> noun <i>na-</i> noun <i>nàà-</i> pronoun <i>nii</i> m. noun <i>naa</i> pronoun <i>nii</i> <i>naa-</i> pronoun other than <i>nii</i>
<i>ta:</i>	noun <i>C</i> ¹ noun / pronoun / (phrase) <i>ta-</i> noun <i>tàà-</i> pronoun <i>nii</i> f. noun <i>taa</i> pronoun <i>nii</i> <i>taa-</i> pronoun other than <i>nii</i>

These may be stated:

- na* is *nàà* in the sequence *na-* + pronoun *nii*
- naa* in the sequences m. noun + *na* + *nii*, *na* + pronoun other than *nii*
- na* (accent variable) in the sequence *na-* + noun
- nà* (accent invariable) in the sequences pronoun *na* + *N*, *na* + noun, and optionally in other *NnaN* constructions
- n* in all other *NnaN* sequences
- ta* is *tàà* in the sequence *ta-* + pronoun *nii*
- taa* in the sequences f. noun + *ta* + *nii*, *ta-* + pronoun other than *nii*
- ta* in the sequence *ta-* + noun

⁴ See MA.

C¹ in NtaN sequences

Examples (listed according to the first chart) are:

- n *bàbbans²uns²uu* 'big bird' (*bàbba* 'a big one, n 'of' *s²uns²uu* 'bird').
ʔàbookinši 'his friend' (*ʔàbookii* 'friend', n 'of', *ši* 'him'). *nii* *bànkulàà*
bà // *ʔàbin* // *dà sunceè* 'I don't care what they say' (*ʔàbi-* 'thing', n 'of',
dà 'that, with' *sunceè* 'they said').
- nà *šinà ʔigiyà* 'he makes rope' (*ši* 'he', *nà*, *ʔigiyà* 'rope'). *baaree* *nàduuniyà*
' stranger in (*nà*) the world'. *šinà ʔinaa* 'where is he?' (lit. 'he of where').
šinà dà kud²ii dà yawà 'he has a lot of money' ('he', *nà*, *dà kud²ii dà yawà*
'with a lot of money'). *bàà nàfatalwaa* *ba* 'it's not supernatural' (*bàà* . . . *bà*
'it's not', *nà* 'of', *fatalwaa* 'a ghost').
- na- *koomii* *nà duuniàà* // *namaataanèè* 'everything in (*nà*) the world pertains
to (*na-*) women'.⁵
- nàà- *nààwanèè* 'it's mine' (*nà* 'of', *nii* 'I', *nee* 'it is'; *nii* > *wa* after *na-*).
naa *ʔùbaanaa* 'my father' (*ʔùbaa* 'father, na 'of', *nii* 'I'; *nii* > zero after *na*).
naa- *baàkà da naakà* // *say nawani* 'you have nothing of your own (*naakà*)—
just that which belongs to someone else'. *wannàn* // *naak²nee* 'this is
yours (possessor feminine)'. *naaši* 'his'.

Variants of *ta*:

- C¹ *hanyàjjirgii* 'railroad track' (*hanyà* 'road', *ta* 'of', *jirgii* 'train').
màganàttùùrààwaa 'European language' (*màganà* 'speech', *ta* 'of', *tùùrààwaa*
'Europeans'). *ʔùwakkà* 'your mother' (*ʔùwaa* 'mother', *ta* 'of', *ka* 'you').
- ta- *tagàri* 'a good woman'
- tàà- *tààwacèè* 'it's mine' (possessed feminine)
- taa *d²iyaaataacèè* 'she's my daughter' (*d²iyaa* 'daughter', *ta* 'of', *nii* 'I'—here
zero, *cee* 'is (f.)')
- taa- *taakà* 'yours' (possessor masculine, possessed feminine),
taak²i 'yours' (possessor and possessed both feminine), etc.

Note: Only *na* occurs after a pronoun or a plural noun.

2.3.5. The indefinite *wa-*. There are a number of words in which a morpheme *wa-* is found. This *wa-* has a plural *wa²à-* or *wad²à-*. Compare:

- wani* 'someone' f. *watà*, pl. *wa²ànsu*, *wasuu*
wànì 'which?' f. *watà* (pl. not noted)
wànèè 'which?' f. *wacèè* (pl. *wad²ànnèè*—BD)
wan²in 'that one' (f. *wa²in*, pl. *wa²an²in*—BD)
wannàn 'this one' (pl. *wad²ànnàn*—BD)
wanna²n 'the other one' that one' pl. *wa²ànnan*

As noted, some forms were supplied from Bargery with spelling modified. The feminine form *wa²in* might possibly be *wa²ʔin*, that is, have the morpheme *ta* (C¹ = ʔ before ʔ). Compare the masculine *wa-n-ʔin* with *wa-n-ca²n* below and feminine **wa-ʔ-ʔin* with *wa-c-ca²n*. Bargery also has (for the Katsina dialect): *wanca²n* 'that one' f. *waccan* pl. *wad²àncàn*

Some of the above list of forms transparently contain *na* or *ta*:

⁵ The distinction between *nà* and *na-* (*tà* and *ta-*) is based mainly on the words *nagàri*, *tagàri*, *nàgàrtaa*. The difference in tone apparently supports the distinction maintained in MA, but the two may be the same (or may be differentiated on different grounds). The difference should not be pressed without further study.

wa-n-ʔin (compare *ʔin* 'there'), *wa-n-nàn* (*nañ* 'here'), *wa-n-nañ* (*nan* 'there'), the plurals being *waʔà-n-ʔin*, *waʔà-n-nañ*, *waʔà-n-nan*. *wànèè* and *wàcèè* are *wa*-plus *-nee*, *-cee* (the same morphemes as *nee* 'is (m.)', *cee* 'is (f.)'?); *wata* (also *wàtà*) is *wa-ta* (*ta*, 2.3.4); *waʔànsu* is *waʔà-na-su* (*na*, 2.3.4, *suu* 'they') and *wasuu* *wa-suu*. Bargery gives also *wasuu*, which would be *wa-s-su* (*wa-ta-suu*). We have left *wani*, *wànì*, for which no analysis is apparent, unless *nì* be a morpheme alternant of *na*. *wani* has a variant *wan* before *dà*: *koowandà* 'whoever . . . '.

Since the morpheme *wa-* has gender (both m. and f.) and number and appears to occur only before *na*, *ta*, *nee*, *cee*, it may be classed as a pronominal bound form.⁶

2.3.6. Interrogative pronouns *mìì*, *wàà*. The following forms were recorded:

wàà 'who', m. *wàànee*, f. *wààcee*

mìì 'what', also *mìineè*

We have the same *-nee*, *-cee* as after *wa-*. The compounds *wàànee* and *mìineè* are often found before *-nee* 'is' and *wààcee* before *-cee* 'is': *wààneeneè*, *wààceecèè* 'who is it?', *mìineeneè* 'what is it?'.⁷

wàà and *mìì* are replaced by *waa*, *mii* (high tone) after *koo*: *koomii* 'everything', *koowaa* 'everybody'. Whether *waa* is the same morpheme as the *wa-* of 2.3.5 is unclear but certainly possible.

2.3.7. Verb *yi*. In the sequence /*nyi m*/ *yi* is replaced by zero with resultant close juncture between /*n*/ and /*m*/: /*mm*/. This is an optional but nevertheless usual replacement. Examples: *summašì bʔànnaa* for *sunyi mašì bʔànnaa* 'they caused him damage'; *summàganà* for *sunyi màganà* 'they talked'.

2.3.8. Negative *baa*. The negative morpheme *baa* has the following variants (partially conditioned by syntactic replacement possibilities):

baà in *baa*-pronoun

baà . . . ba in *baa* plus noun or pronoun when replaceable by noun (or pronoun) plus *nee/cee*

baà or *baabù* in *baa* plus noun elsewhere

bà . . . ba in *baa*-pronoun (+)-verb

Where there is a second *ba*, it is enclitic, following the tone of the preceding morpheme. Examples of these variants are:

baà-pronoun. *dà raanaa baàšì gani* // *dàdà daree šinà gani*. 'he doesn't (can't) see by day, but he sees by night'. *baàšì nañ* 'he's not here'.

baà pronoun *ba*. *baà šiinèè yaadʔàwki jirgii ba* 'it wasn't he that took (literally) the train'. This is replaceable by *šiinèè yaadʔàwki*, etc. *bàà* noun *ba*. *kàree* // *bàà zumùnkura ba*. 'the dog is not the hyaena's friend'. (Compare *kàree zumùnee* 'the dog is a friend'.)

baà and *baabù* with nouns elsewhere seem to be interchangeable. *baabù zaalumcù ʔà sʔàkaaninsù* 'there's no rivalry between them'. *kàree dà kuuraa* // *baabù ʔàmaanàà*. 'with the dog and the hyaena there's no peace'. *kaakašèèši* // *baà jinii* '(if) you kill him, there's no blood'. *jikinšì* // *baà jinii*. 'there's no blood in its body'. *wurii wannàn* // *baabù kùran*. 'there was no Koran in that place'.

baà-pronoun-verb *ba*. *nii bàngani ba* // *hakàà sunceè*. 'I didn't see it; that's what they said'. See 2.3.3 (No. 11).

⁶ Compare SH 79, 80.

⁷ The final low of *-èè* goes to the *-nee* or *-cee*, which otherwise has the opposite tone to that of the preceding morpheme final.

CHAPTER III

MORPHOLOGY OF THE NOUN

3.1. Introduction.

3.1.1. Bases. Since nouns have bases derived from verbs as well as straight nominal bases, a word must be said concerning the nature of these types of morphemes. As seen in 2.1, there is a fundamental difference between them. The noun base is complete with tone pattern and becomes a 'word' (the singular) before open juncture / #/. All affixes are attached directly or indirectly to this base, usually with loss to the original base. The base is hypothetical only in regard to morpheme variants, the rules of which are not operative until the morpheme is before open juncture. Verbs, on the other hand, have as bases toneless forms ending in affix juncture /-/. This base is hypothetical, having been abstracted from existing forms, and from it all forms may be made by the addition of affixes (tones, endings, etc.). The verb stems (base plus [prefix plus] tone plus ending) are regular, and these are the forms which correspond to the noun base in usage, i.e. they may occur before / #/. But in word formation the noun base is treated in a way parallel to the verb base, not to the verb stems. All affixes are added respectively to noun base or verb base (though they may be applied in different levels).

3.1.2. Tone. Nouns and verbs also differ in the nature of the tone patterns applied to them. Noun tone patterns may be represented in a simplified form, since most of them pattern as though beginning from the end of the word. The last tone given (reading from right to left) is the tone of all preceding syllables. In this way the patterns ' ', ' ', ' ' may all be represented by ' ', e.g. *fààrii* 'locusts', *jìminay* 'ostriches', *c²ààdàràkay* '(a certain kind of) snakes'. In any tone pattern (noun or verb) two like tones on a geminate vowel are treated as one tone (*fààrii* has pattern ' ', not ' '). If the last two tones are high and the rest low, ' ' is written, e.g. *b²àreewaa*. To indicate all tones high, ' ' is used, though this could have been represented by ' ' alone. E.g. *maataa* 'women', *bušiyaa* 'hedghog'. ' ' indicates all high until the last tone, e.g. *k²anèè* 'younger brother', *baranyàà* 'servant girl', *kaṛnukà* 'dogs'. As many tones are given as necessary. This sometimes means the whole pattern of the word, but oftener it may be abbreviated: ' ' for *²àlbarkàcii* 'blessing' but ' ' for *càkwàykwayay* 'starlings'. One pattern, with first and last syllables high and all intermediate ones low, is most conveniently represented by ' ' ('), the (') representing the possibility of an indeterminate number of other medial low syllables (examples 3.2.3, 3.6.2, 5). In contrast the verb tone pattern indicates a whole set of patterns (see 4.5), nor is it convenient to use abbreviated symbols. However, a deverbal noun (see 3.2.3) acts as any other noun in regard to tone.¹

¹ This discussion has not taken into consideration variation in noun tone patterns. Compare PH 33, 34, MGS 18, 19. The two nouns noted with all low tones (*²àbù*, *màcèè*) are *²àbu*, *màcèè* when before pause and before *nee*, *ceè*. Before *na*, *²àbù* is replaced by *²àbi*. Such changes may well be relegated to Chapter 2 as phonologic phenomena or morpheme

3.1.3. Levels of formation. There are two levels of noun formation, stem formation and affixes to the stem. The stem is the foundation of all word final affixes to nouns. On this stem level we have two types, noun bases as stems and extended stems. The noun base is made up of the linear phonemes plus the tone pattern of the singular. Noun forms are given as occurring before / # /, so that the rules of chapter II are operative. Where a hypothetical form is necessary, it is indicated with an asterisk (*). Extended stems are only found with affixes (see 3.6).

3.1.4. Forms of the stem. The following forms of the stem occur:

I. Base as stem

A. Noun bases

1. Simple noun
2. Noun bases from verb bases
 - a. Verbal nouns (nouns identical in form with verb stem)
 - b. Deverbal nouns (formed from the verb base by the addition of tone patterns and endings)

B. Extended noun bases

1. Reduplicated bases (with change of tone pattern)
 - a. Complete reduplication
 - b. Reduplication after loss of final vowel
2. Prefix formations
 - a. *ba-*
 - b. CVC- (3 mora)
3. Suffix formation -CVC

II. Extended stems (bases after loss but with addition before the affixes are added)

A. Complete reduplication replacing the final vowel of the first element by *-aa-*

B. Prefix formations

1. *ba-*
2. *ma-*
3. CVC-

C. Infix formations

1. Reduplication (3 mora)
2. Replacement vowels

D. Suffix formations

1. *-t-*, *-nt-*
2. *-C-*
3. Reduplication (3 mora)

Note that the prefix *ba-* is a formative element in both I. and II. The prefix *ma-* of II.B.2 is also an element in the formation of nouns from verb bases, I.A.2 (see 3.2.3).

3.2. Base as stem.

alternants. No observable regularity was noted to distinguish adverbial use of nouns, though tone varied in some cases: *gidaa*, *gidaa*. Ordinarily tone phrase juncture precedes a noun used adverbially.

References in this chapter are mainly to Abraham (PH, MGSH). Most other works neglect tone, some even vowel length or other vital phonemic matters.

3.2.1. Simple noun. The simple noun forms by far the largest class of noun bases. Examples: *gaašii* 'hair', *duucʔii* 'rock', *daree* 'night'.

3.2.2. Verbal nouns.² Of the nouns from verb bases we call those 'verbal nouns' which are identical in form with the stem of the verb. Verbs having the following tone sets and vowel suffixes may also use the stem of the verb (with the key tone pattern of the set, see 4.5) as a noun:

'' -ee, -aa, -i '' -i, -aa ''' -aa ''' -aa

E.g. *zààbʔee* 'to choose one of a few', *raanazzààbʔee* 'day of choosing' (election day), *sunà zààbʔeenši* 'they are choosing him'. *cikaa* 'to be full', *cikaššèèkaràà* 'the filling (i.e. end) of the year'. *kʔòòši* 'to be full', *kʔòòši* 'sufficiency', *kay baàkà dà kʔòòšinkudʔii* 'you don't have enough ('a sufficiency of') money'. *rìnjaayàà* 'to be lopsided, prevail (?)', *yaayi rìnjaayàà* 'it's become lopsided' (lit. 'it has made lopsidedness'). *gani* 'to see', *gani* 'seeing'. *sʔuufaa* 'to become old', *kanà sʔuufaa* 'you are getting old'. *gàwgàwtàa* 'to boast of ability not possessed', *kanà dà gàwgàwtàa* 'you have the habit of boasting of ability not yours'.

3.2.3. Deverbal nouns. Any of the above verb stems may be used as a noun, but often a deverbal noun is used instead (always for stems other than the above). These are formed by the addition of affixes to the verb base. The meaning sometimes departs from the meaning of the stem forms from the same base, although frequently they are used in connection with specific stems. In forming deverbal nouns from the base the following combinations of affixes were noted:

''	-ii,	-ee,	-uu,	-aa,	-oo,	-aw		
''	-ii,	-ee,	-uu,	-aa,	-oo,	-woo,	-uwa,	-zero
'''				-aa		'''	-uwaa	
'''		-ee		-aa			-iyaa,	-uutu
'''				-aa			-uwaa,	-iyaa,
''	-ii,	-ee		-aa,	-oo,	-ay,	-uwaa	-iyaa,
''(')								ma - - V
								ma - - ii

Particular mention should be made of four of these since they are regular formations. These are '' -zero, -aCCee, '' ma - - V, '' ('') ma - - ii.

'' -zero is the regular formation of a deverbal noun from verb bases with stems of the tone sets ', ' 1, and ' ('') (see 4.5.1, 2, 3). The nouns thus formed are masculine and when followed by *na*, the latter takes the low tone of the pattern. E.g. *cii-* 'to eat', *jii-* 'to perceive': *jìnkì yaafi cìnkì* 'perceiving you is better than eating you' (said of a *gàdwasà* tree, which smells delicious when the fruit is ripening but is not yet good to eat). *šaa-* 'to drink', *šinà šambààrààsaa* 'he's drinking liquor'. *soo-* 'want', *mìineenèè // kanà soðʔ* 'what do you want?'.

² The terminology here should not be confused with that of Abraham. Only Abraham's verbal noun of mutable verbs (PH 73, 74, MGS 25) is here considered a verbal noun. The verbal noun of an unchanging verb (PH 65-67, MGS 22) is considered a verb form, to be treated in the syntax as regards its nominal functions. Abraham clearly distinguishes the two, of course. Abraham's 'extra' or 'secondary verbal noun' (PH 138-145, MGS 25, see also 55-58) is my deverbal noun. However, the latter also includes Abraham's 'Agent', 'Tool', 'Place' (MGS 62-63) and the 'Past Participle' (MGS 48).

''' -aCCee is a formation made from any verb base to indicate one upon which (or whom) the action of the verb has been taken. It is, then, equivalent to a perfective passive participle. For the feminine -aa and plural '' -uu see 3.5.2. Examples: *tooy-* 'to burn', *tòòyayyee* 'a burnt up one'; *sʔay-* 'to stand', *sʔàyyayyee* 'a stubborn person'. For this same suffix used with simple noun bases see 3.5.1.

'' (') 'ma - - ii forms agent nouns. For feminine -iyaa and plural -aa see 3.5.2. E.g. *buus-* 'to blow', *mabùùškii* 'one who blows, a flutist'; *kooy-* 'to learn, teach', *makdòyyii* 'a learner, student'. This formation indicates a steady occupation in the action. For the same combination of affixes to noun stems see 3.6.2.

'' ma - - V forms nouns of instrument from any verb base. The final vowel varies, being usually -ii, but also -aa. For plurals see 3.5.2. E.g. *ma - - ii*: *šaar-* 'to sweep', *mašaarii* 'an instrument with which to sweep'; *burk* 'to twirl', *maburkii* 'churning stick, firestick'. *ma - - aa*: *buus-* 'to blow', *mabuusaa* 'flute'; *hayf-* 'to bear (a child)', *mahayfaa* 'birthplace, uterus'.

The other deverbal nouns are made with varying degrees of regularity in relation to the verb stem. The following are examples of the combinations of tone pattern and final vowel formatives noted: (Numbers in parenthesis indicate numbers of examples recorded, when limited.)

'' -ii: *taaf-* 'action with flat of hand or foot', *tàðfi* 'palm, sole'. *moosʔ-* 'to make a rustling noise by moving about', *mòòcʔii* 'making a rustling noise by moving' (as of a snake or rat). -ee: *das-* 'to transplant', *dàšee* 'transplanting'. *sʔay-* 'to stand', *sʔàyyee* 'being level, straight; standing'. -uu: *ruugut-* 'to write', *ruùgùtuu* 'writing' (later than the time of speaking, in contrast to *ruugùtää* 'writing right away'). -oo: *fas-* 'to crack', *fàsoo* 'splitting', *foor-* 'to discipline', *fòòroo* 'discipline'. -aa: *cir-* 'to pull up by hand', *ciraa* 'pulling up by hand'. -aw: *sayd-* 'to sell', *sàydaw* 'one who sells'; *ʔaykat-* 'to work' (tr.), *ʔàykāt-* 'to work' (tr.), *ʔàykàtaw* 'one who works something'.

'' -ii: *ʔask-* 'to shave', *ʔaskii* 'shaving' (used with verb stem *ʔaskèè*). -ee: *roosʔ-* 'to crack someone's head', *roocʔèè* 'cracking a head' (1). -uu: *bug-* 'to beat', *bugùù* 'beating'; *daam-* 'to bother', *daamùù* 'bothering'. -oo: *ciiz-* 'to bite', *ciizdò* 'biting'. -aa: *fEkʔ-* 'to sharpen', *fiikʔàà* 'sharpening'. -woo: *kʔii-* 'to hate', *kʔiivdòd* 'hating' (1). -uwa: *z-* 'to be on one's way', *zuwà* 'coming', used with verb stem *zoo*.

'' -aa: *saat-* 'to steal', *saàtää* 'stealing' (1).

'' -uwaa: *faadʔ-* 'to fall', *faadʔùwaa* 'falling' (1).

'' -ee: *sʔugunn-* 'to squat', *sʔùgunnèè* 'act of squatting' (used with verb stem *sʔugùnnaa*). -aa: *kakkabʔ-* 'to beat in order to knock something off the thing beaten', *kàkkabʔàà* 'beating (as above)' (used with verb stem *kakkàbʔee*). -iyaa: *taf-* 'to depart', *tàfiyàà* 'act of going' (used with verb stem *tàfi*). -wutuu: *kʔull-* 'to knot', *kʔùlluutùù* 'a knot, lump' (1).

'' -aa: *haraar-* 'to stare hard at', *hàraaraa* 'staring hard at' (1). -uwaa: *šaakʔ-* 'to choke', *šààkʔuwaa* 'hiccups'. -iyaa: *dʔoor-* 'to put a load on someone', *dʔòdòriyaa* 'a load' (1).

'' -ii: *sulbʔ-* 'to slip off', *sulbʔii* 'slipperiness'. -ee: *ʔamr-* 'to marry', *ʔamree* 'act of marrying'. -aa: This form is very common and is used with a variety

of verb stems. *cʔaag-* 'to tear', *cʔaagaa* 'tearing', (used with verb stem *cʔaagèè*); *haw-* 'to mount', *hawaa* 'mounting' (used with verb stem *haw*); *gyaar-* 'to add to, to fix', *gyaaraa* 'an added bit; fixing, cleaning' (used with verb stem *gyaaràà*). -oo: *gooy-* 'to carry on the back' (as, e.g., a child), *gooyoo* 'carrying on the back' (used with verb stem *gooyàà*). -ay: *cʔeer-* 'to endeavour to surpass', *cʔeeray* 'endeavouring to surpass' (1). -uwaa: *gaan-* 'to find a lost object', *gaanuwaa* 'act of finding that which was lost' (used with verb stem *gaanèè*). -iyaa: *goot-* 'to go to one side', *gootiyaa* 'going to one side, dodging'.

3.3. Extended noun bases. Many noun bases have extended as well as simple forms. A few hypothetical forms have the same type of extension and are included. These (e.g., **fikee*) have been abstracted from these formations and from their extended stem forms as being the common foundation of both. They do not constitute noun bases except in their extended form since they do not occur as simple base forms.

3.3.1. Reduplicated bases. These are simple bases reduplicated with loss of tonal pattern. A new tone pattern accompanies the reduplicated form. Examples of complete reduplication are: *ʔayàà* 'tiger-nut', *ʔàyààʔayàà* 'a similar but inedible plant'; *kʔibàà* 'fat', *kʔibààkʔibàà* 'a fat person'. Reduplication after loss of final vowel and tone pattern: *kʔayàà* 'thorn', *kʔàykʔay* 'anything which causes itching, chaff'.

3.3.2. Prefix extensions of the base. Of these we have two types, the morpheme *bà-* and reduplicative prefixes. *bà-* indicates 'a native of' or 'one possessing the quality of'. The former is more common. The base suffers no loss. (See 3.6.2 for this affix as an extension of the stem.) E.g. *gwaarii* (tribe name), *bàgwaarii* 'a Gwari'; *kandò* (place name), *bàkandò* 'a native of Kano'; *hagòò* 'left hand', *bàhagòò* 'a left-handed person'.³

CVC- (3 mora) reduplicative prefixes. These cause loss of tone pattern and ending (final vowel or *-iyaa*) to the base and are accompanied by tone pattern and final vowel. They are:

CVC- This reduplicates the first consonant and vowel of the base and doubles the original first consonant of the base. The tone patterns are '' with *-ee*; '''' with *-aa*. E.g. *-ee*: **šikee*, *šiššikèè* 'a supporting timber (rafter, column)'; **fikee*, *fiffikèè* 'feather'. *-aa*: *sʔawrii* 'retarded growth', *sʔàssʔawraa* 'one of retarded growth'; *mòòriyaa* 'usefulness', *mammooraa* 'usefulness'; *gawcʔii* 'brittleness', *gàggawsʔaa* 'a brittle one'; *tawrii* 'toughness', *tàttawraa* 'a tough person'. *muunìì* 'ugliness', *mùmmuunaa* 'an ugly person'. As seen by these examples, this affix usually indicates 'a person or thing of the quality of'. *mammooraa* is recorded in context parallel to *mòòriyaa* but no difference of meaning was noted.⁴

CVn- This reduplicates the first consonant and vowel and adds *-n-* before the simple base. Examples noted: *kʔumcii* 'dense brush', *kʔunkʔumcii* 'a narrow one or place'; **zaroo*, *zànzaroo* 'a wasp'.

CVl- This is the same as the last, but with *-l-*. From the two examples where the simple base is known, it seems to indicate 'one of the appearance of'. Examples noted: **gijee* (verb base 'to shake'), *gilgijèè* 'a cloud'; **piloo*, *pilpilòò* 'butter-

³ Compare PH 34, 35, MGS 61.

⁴ Compare PH 43, MGS 50.

fly'; *gaašii* 'hair', *gàlgaasàà* 'hairy person'; *mààtaa* 'woman', *màlmaatàà* 'eunuch'.

3.3.3. Base extended by suffix. Only one certain example has been noted. This is a reduplication of the last syllable (CVC) of the base after loss of final vowel and tone pattern. A new tone pattern and final vowel are added with the suffix extension. *ʔàljanaa* (or *ʔàljannà*) 'Jinn', *ʔàljanjànii* 'one possessed of Jinn'.

Extended stems. Certain bases, after loss but before the addition of any affix to the stem, are extended in any one of several ways. These are automatic additions to the stem and are not morphemes (since they have no meaning). As they occur only with affixes, they are discussed in full in the treatment of the relations of stems to affixes (see 3.6).

3.4. Affixes to the stem.

3.4.1. Loss to base. All affixes cause loss to the stem. This loss is of tone pattern and ending. A tone pattern accompanies the affix to be added. The loss of ending may be any one of the following:

-zero *-ay* *-iyaa* *-waa* *-in*
 -V *-yaa* *-niyaa* *-uwaa* *-aya*

To the stem after loss the tone pattern and affixes are added.

3.4.2. Groups of related affixes. The affixes are listed in full below (3.4.4), but a few related groups are noted here.

The abstract *-t-* group. This group have *-t-* in common and are all in some sense abstract formations.⁵

-taa *-ntaa*
-taka *-ntaka* *-antaka* *-untaka*
-cii *-ancii* *-umcii*

E.g. *muugùù* 'an evil person, a bad one', *mùgùntaa* 'evil'; *nagàri* 'a person of good character', *nàgàrtaa* 'goodness'; *baawàà* 'a slave', *bàwtakà* 'state of being a slave'; *cʔinkèè* 'a pointed object', *cʔinkàntakà* 'pointedness'; *saaboo* 'a new one', *sààbùntakà* 'an element of newness'; *daadʔii* 'pleasure', *dààdʔintakà* 'pleasantness'; *ʔàlbarkàà* 'blessing', *ʔàlbarkàcii* 'blessing'; *tuuray* 'Europe', *tuurancii* '(any) European language'; *bààkʔoo* 'stranger', *baakʔumcii* 'a stranger's manner'. The *-taka* is apparently an extended form of *-taa*. The *-cii* is *-t-ii*. Five of the forms have a nasal (*n* or *m*). There seems to be no meaning difference between these and the others. One stem cannot have both. Possibly the base has a morphophonemic *-n* (compare *-(n)*, 2.2.3).

Here also belong the stem extensions *-t-* and *-nt-* (see 3.6.5). These were set up when the form of the word was that of one with a further affix based upon a *-taa* or *-ntaa* form, but the latter was not recorded (see 3.4.4). Compare also the denominative verb formative elements *-at-*, *-nt-*, *-t-* (4.2.2).

The *-yaa* group. These have *-yaa* in common and form nouns of feminine gender.⁶ Some have an *-n-* (compare the *-n-* above).

-yaa *-iyaa* *-nyaa* *-niyaa* *-inyaa*

E.g. *kàree* 'dog', fem. *kàryaa*; *ʔàbookii* 'friend', fem. *ʔàbookiyàà*; *baràà* 'servant',

⁵ Compare HG 63-64, PH 36, 37, MGS 59, 60, GHL 13, 14.

⁶ Compare PH 28, 29, MGS 45, 46, GHL 19, 50, 52, LHS 8-20, 22, 23, 26, 48-50.

baranyàà 'servant girl'; *màraayàà* 'orphan', fem. *màraynìyaa*; *yaaròò* 'boy', *yaarinyàà* 'girl'.

The *-n-* group. All these are plural except *-aanii*. Arranged according to the length of the vowel before *-n-* and the length of *-n-*, they are:

-ina *-una*
-annii *-annee* *-annuu* *-unnii* *-unna*
-aanii *-aanuu*

For examples see 3.5.1.

The *-y-* group. All these are plural, and all are rare except *-aayee*. For examples see 3.5.1.

-iyya *-ayyii* *-ayya* *-ooyii* *-aayee*

3.4.3. Relations of affixes to tone.⁷ Some affixes may be accompanied by any one of a number of tone patterns, but most of them are restricted to one. Those found with several usually occur more often with one than with the others. Those noted with one pattern are:

‘ ‘ *-ayyii* *-aw* *-uway* *-akii* *-akay*
 -annii *-unnii* *-annee* *-annuu*
 ‘ ‘ *-ina* *-una* *-unna* *-umcii*
 -nyaa *-inyaa* *-uka* *-nuka*
 ‘ ‘ ‘ *-taka* *-ntaka* *-antaka* *-untaka*
 ‘ ‘ ‘ *-ayya* *-aanuu*
 ‘ ‘ ‘ *-aanii* *-aCCee*
 ‘ ‘ ‘ ‘ *-niyaa* *-cii*
 ‘ ‘ *-ancii* *-ooyii* *-waa*

For examples see 3.5. Many of those affixes which take more than one tone pattern have fixed tone patterns with extended stems (see 3.6).

3.4.4. Sequences of affixes. Affixes are of four types in relation to the stem and to each other:

1. Those attached only directly to the stem and which allow no other affix after them:

-taka *-ntaka* *-antaka* *-untaka* *-ancii* *-umcii*
-niyaa *-yaa* *-inyaa* *-iyya* *-ayya* *-ooyii* *-ayyii* *-aayee*
-waa *-uwaa* *-uway*
-ina *-una* *-unna*
-annii *-annee* *-annuu* *-unnii* *-aanuu* *-aanii*
-akii *-kuu* *-uka* *-nuka* *-akay* *-aatuu*

2. Those attached only directly to the stem but which may have another affix after them:

-taa *-ntaa* *-cii* *-nyaa* *-aw*

3. Those which may be attached after another affix and which may have another affix after them:

-aCCee *-ii* *-ee*

4. Those which may be attached after another affix but may have none following:

⁷ Compare BD xxviii-xxix.

-uu -aa -ay -iyaa -aawaa

No stem may have more than one of any group at a time. Any one of these affixes may follow the stem directly, and any may be final.

Since those of group one allow no other affixes, they are mutually exclusive of groups two to four. However, a stem may have a member each from groups two to four, or it may have affixes from but two of the groups. The possibilities are:

Combinations of groups two, three, and four:

2. -taa, -ntaa 3. -ii 4. -iyaa, -aa

E.g. *saa²àà* 'luck', *sàà²antàà* 'luck', *masàà²àncii* 'one who is constantly lucky', fem. *masaa²anciyyaa*, pl. *masàà²àntaa* (note that this combination only occurs with stems extended by *ma-*).

Combinations of groups two and four:

2. -cii 4. -ay; 2. -nyaa 4. -uu; 2. -aw 4. -aawaa

E.g. *²àlbarkàà* 'blessing', *²àlbarkàcii* 'blessing' pl. *²àlbàrkàtay*; *baràà* 'servant', *baranyàà* 'maidservant' pl. *bàrànyuu*; *jaa* 'red one', *jààtaw* 'reddish person or beast' pl. *jaataawaa*. There are the only examples noted.

Combinations of groups three and four:

3. -aCCee 4. -aa, -uu; 3. -ii, -ee 4. -iyaa

These refer to two common formations: -aCCee 'a person of the nature of' (see 3.5.1) and stem extension *bà-* 'a native of' (3.6.2). E.g. *hàd²amàà* 'greed', *hàd²àmammee* 'a greedy person' fem. *hàd²àmammaa*, pl. *hàd²àmàmmuu*. *tuuray* 'Europe', *bàtuurèè* 'a European' fem. *bàtuurìyaa*. -ii is also found with stem extension *ma-* (see above).⁸

3.5. Relation of stem formations to affixes. This may be summarily stated as follows:

I. Base as stem

A. Noun bases

1. Simple noun — any affix except -kuu
2. Noun bases from verb bases
 - a. Verbal nouns — none noted
 - b. Deverbal nouns — probably any (examples limited)

B. Extended noun bases

1. Reduplicated bases
 - a. Complete reduplication — -ay
 - b. With loss of final vowel — -kuu
2. Prefix formations
 - a. *ba-* — -ay
 - b. CVC- — -aa, -uu, -ay

⁸ These sequences would undoubtedly be changed in part and enlarged by further research (compare LHS 19, 20, where examples of further affixes, plurals of, -taka are given).

Previous discussions of affixes have been organized according to meaning—abstract, feminine, plural, etc. References have been given for abstract and feminine formations. For plurals see GHL 20–44, 50, 52 and for plurals of deverbal nouns 37, 38 (a large collection of formatives, unfortunately without tone or vowel length), HG 60–63, MGS 39–41, BD xxviii–xxix (tone), LHS 8–20, 22, 23, 26, 48–50, WHS xviii–xx. For a suffix -di to numerals see GHL 64.

3. Suffix formation -CVC — -aa, -uu, -ay

II. Extended stems

A. Reduplication with replacement -aa

B. Prefix formations

1. *ba-* — *-ii, -ee*
2. *ma-* — *-ii*
3. CVC- — *-aayee*

C. Infix formations

1. Reduplication — *-ay*
2. Replacement vowels — *-ii, -ee, -uu, -aa, -ay, -kuu*

D. Suffix formations

1. *-t-* — *-aw, -ii*
-nt- — *-ii*
2. *-C-* — *-aa, -ii, -ee, -uu, -ay, -uwaa*
3. Reduplication — *-ii, -ee, -uu, -aa, -ay, -uwaa, -uka*

Although some affixes are regularly accompanied by certain tone patterns, as was stated above (3.4.3), no blanket statement can be made. Still less can any statement be made as regards the loss suffered by the base before the addition of any affix. The following list endeavours to give as complete a picture of the possible combinations as records permit. It is arranged according to the above table of bases and extended stems, listing what affixes may accompany each. The tone pattern of the new formation is given, followed by the loss of ending suffered by the base. Where less than five examples were noted, all are given and their number indicated to the right of the loss to the base.

3.5.1. Simple noun—possible affixes:

-taka ' ', -V. *baawàà* 'slave', *bàwtakà* 'state of being a slave'; *gàjeeree* 'a short one', *gàjàrtakà* 'shortness'.

-ntaka ' ', -zero. *yawà* 'plenty', *yàwàntakà* 'plentifulness'; *baràà* 'servant', *bàràntakà* 'servitude'.

-antaka ' ', -V. *cʔìnnii* 'a point', *cʔìnnàntakà* 'pointedness'; *bakʔii* 'a black one', *bàkʔàntakà* 'state of blackness'.

-untaka ' ', -V (2). *saaboo* 'a new one', *sààbùntakà* 'an element of newness'; *sʔaawoo* 'length', *sʔààwùntakà* 'length'.

-ancii ' ', -ay (1). *tuuray* 'Europe', *tuurancii* 'a European language'. ' ', -V. *gwaarii* (tribe name), *gwaarancii* 'the language of the Gwari'.

-umcii ' ', -V (1). *bààkʔoo* 'stranger', *baakʔumcii* 'a stranger's manner'.

-niyaa ' ', -V (1), -zero (1). *màraayàà* 'orphan', fem. *màrayniyaa*; *màtum* 'person', fem. *mùtumniyaa*. Compare also *sàrawnìyaa* 'queen', *sàrawtàà* 'government' (see 2.3.2).

-iyya ' ' and ' ', -V (1). *dawòò* 'lump of dough (fura)', pl. *dàwiyyà* and *dawìyya*.

-ayya ' ', -V (1). *dawòò* 'lump of dough', pl. *dawàyya*.

-ooyii ' ', -V (1). *kààmaa* 'a roast', pl. *kaamooyii*.

-ayyii ' ', -V (2). *zoobèè* 'ring', pl. *zoobayyii*; *tùùree* 'island formed by river', pl. *tuurayyii*.

-aayee ' ', -V, -ay. This is a common affix and always has this tone pattern

if loss is -V or -ay. With -uwaa loss an example with '' pattern was noted. *sʔunsʔuu* 'bird', pl. *sʔunsʔàd̩yee*; *bʔawree* 'fig tree', pl. *bʔawràd̩yee*; *ʔuwaa* 'mother', pl. *ʔuwàd̩yee*; *ʔamay* 'vomiting', pl. *ʔamàd̩yee* (-ay loss). With '' -uwaa (1): *tùrbʔuwaa* 'dry, dusty earth', pl. *tùrbʔàd̩yee*.

-yaa '', -V (1). *kàree* 'dog', fem. *kàryaa*.

-inyaa '', -V (1). *yaaròò* 'boy', *yaarinyàd̩* 'girl'.

-waa '', -V (1). *kuturuu* 'leper', fem. *kuturwaa*. Although this is the only example noted, others (probably with varying tones) will undoubtedly be found in this dialect. The same may be said of -yaa (and others).

-uwaa '', -V. *bàd̩kʔoo* 'stranger', fem. *bàd̩kʔuwaa*; *tùnkkuu* 'a wild feline', fem. *tùnkkuwaa*. '', -V. *kʔanèè* 'younger brother', *kʔanùwàd̩* 'younger sister'. '', -V. *sʔoofoo* 'an old one', fem. *sʔoofuwaa*; *gwamroo* 'widower', *gwamruwaa* 'widow, formerly married but now husbandless woman'. '', -V (2). *hannuu* 'hand', pl. *hannuwàd̩*; *kunnèè* 'ear', pl. *kunnuwàd̩*.

-uway '', -iyaa (1). *taasunn̩yaa* 'story', pl. *tàd̩sunn̩way*.

-ina '', -V, -yaa (1). A not infrequent suffix, always with this tone pattern. *dangì* 'relative', pl. *danginà*; *fùl̩l̩aa* 'hat', pl. *fuulinà*; *gamj̩i* 'gutta percha tree', *gamjinà*; *kʔwaryaa* 'a large calabash', pl. *kʔoorinà* (-yaa loss).

-una '', -V. A more frequent suffix than -ina, always with '' tone. *kʔàfoo* 'horn', pl. *kʔafunà*; *tafk̩i* 'pond', pl. *tafkunà*; *j̩kkaa* 'bag', pl. *j̩kkunà*.

-unna '', -V (3). A much rarer suffix but patterning like the last two: *cik̩i* 'stomach, insides', pl. *cikunnà*; *bàkaa* 'bow (weapon)', pl. *bakunnà*; *kwabòò* 'English penny (copper)', pl. *kwabunnà*.

-annii '', -V, -ay; fairly frequent. *kùbee* 'sheathe', *kùbànnii*; *maataa* 'woman', pl. *màd̩tàn̩nii*; *kùùfuu* 'lungs', pl. *kùùfànnii*; *kʔòòsay* 'bean cake fried in peanut oil', pl. *kʔòòsànnii*.

-annee '', -V (2). *tùùsʔuu* 'a kind of drum', pl. *tùùsʔànn̩ee*; *kàd̩kaa* 'grandparent', pl. *kàd̩kànn̩ee*.

-annuu '', -V (2). *kùgee* 'a metal percussion instrument', pl. *kùgànnuu*; *j̩daa* 'cloud', pl. *j̩dànnuu*.

-unnii '', -uwaa (1). *kàd̩suwaa* 'market', pl. *kàd̩sunn̩ii*.

-aanuu '', -V (1). *ʔid̩d̩òò* 'eye', pl. *ʔid̩d̩ànnuu*.

-aanii '', -V (1). *sʔakà* 'middle', *sʔàkaanii* 'one in between'.

-akii '', -V (2). *kwaanaa* 'day', pl. *kwàd̩ànk̩ii*; *goonaa* 'farm', pl. *gòd̩ànk̩ii*.

-uka '', -V (4). *ràd̩fi* 'stream', pl. *raafukà*; *dàrnii* 'cane fence', pl. *dàrnukà*; *kwaanòò* 'galvanized iron', pl. *kwaanukà*; *tawraa* 'a fruit tree', pl. *tawrukà*.

-nuka '', -V (1). *kàree* 'dog', pl. *kàrnukà*.

-akay '', -V (2). *goonaa* 'farm', pl. *gòd̩ànk̩ay*; *galla* 'a species of fly', pl. *gàllàk̩ay*.

-aatuu '', -V (1). *leebʔèè* 'cock's wattles', pl. *lèèbʔàd̩tuu*. '', -V (1). *cʔib̩i* 'a pile', pl. *cʔib̩d̩d̩tuu*.

-taa '' -zero (1), -V. *kyaw* 'beauty', *kyàwt̩aa* 'a present'; *gàjeeree* 'a short one', *gàjàrt̩aa* 'shortness'; *ʔàmin̩i* 'pal', *ʔàm̩nt̩aa* 'trust'; *baawàd̩* 'slave', *bàwt̩aa* 'slavery' (BD). '', -V (1), -zero (2). *kʔàzaam̩ii* 'a nasty one', *kʔàzam̩t̩d̩d̩* (-t̩d̩?) 'nastiness'; *sàtt̩in* 'sixty', *sàtt̩int̩d̩d̩* 'the sixtieth' (i.e. the sixtieth chapter of the Koran); *sark̩ii* 'king', *sàrawt̩d̩d̩* 'governing' (zero loss as *sark̩ii* is replaced by

saraw-, see 2.3.2; compare *sàrawnìyaa* 'queen'. ' ', -V (1). *kuturuu* 'leper', *kuturtàà* 'leprosy'.

-*ntaa* ' ', -zero. *yààyii* 'a passing fashion, fad', *yààyintaa* 'transcience'; *saa-àà* 'luck', *sàà-àntaa* 'luck'.

-*cii* ' ', -zero (1). *mùtum* 'person', *mùtuncii* 'respect'. ' ', -one vowel mora (-zero?). *àlbarkàà* 'blessing', *àlbarkàcii* 'blessing'.

-*nyaa* ' ', -zero. *baràà* 'servant', *baranyàà* 'maidservant'; *muugùù* 'an evil one', fem. *mugunyàà*; *jiikàà* 'grandchild', fem. *jiikanyàà*.

-*aw* ' ', -V (1). *màgàà* 'talk', *màgàanaw* 'a talker'.

-*aCCee* ' ', -V. This suffix indicates a person partaking of the nature described by the base. It always has this tone pattern. (See 3.2.3 for the same suffix with verb base.) *b-ànnaa* 'ruining', *b-ànnanee* 'a ruined person'; *hàd-àamàà* 'greed', *hàd-àmammee* 'greedy person'; *dànganàà* 'resignation to God', *dàngà-nanee* 'one resigned to God'. For feminine -*aa* and plural -*uu* see 3.4.4. One example of -*aa* was found with no corresponding -*ee*. As this could be considered a feminine, no separate -*aCCaa* was set up: *saafiyà* 'morning', *sààfiyayyaa* 'morning'.

-*ii* ' ', -zero (4). *lààdan* 'muezzin', pl. *lààdànnii*; *tàwsay* 'pity' (BD), pl. *tàwsàyii*; *ràyray* 'sand', pl. *ràyràyii*; *àlkùr-àan* 'Koran', pl. *àlkùr-àànnii*. ' ', -V. *ciyaawà* 'hay', pl. *ciyààyii*; *màkaafòò* 'blind person', pl. *màkààfii*; *kwàd-òo* 'frog', pl. *kwàd-òii*. ' ', -*uwaa* (?), (1). *tàmraarùwàà* 'star', pl. *tàmrààrii* (the masculine form *tàmraaroo* was not recorded). ' ', -V (1). *baawàà* 'slave', pl. *baayii*.

-*ee* ' ', -zero (2). *wàlii* 'prophet', pl. *wàliyee*; *lìman* 'Imam' (BD), pl. *lì-mààmee* (see 2.2.7).

-*uu* ' ', -V. *àsaarà* 'loss', pl. *àsààdruu*; *àwazzà* 'rib', pl. *àwàzzuu*; *c-ìngaaròò* 'potsherd', pl. *c-ìngààdruu*. ' ', -*iyaa* (3). *kartaajiyaa* 'the integument of a corn-stalk' (BD), pl. *kàrtààdzuu*; *makallaciyaa* 'a thin strip of the integument of a corn-stalk' (BD), pl. *màkàllàttuu*; *zangarniyaa* 'ear of grain', pl. *zàngàrnuu*. ' ', -V (4). *yaas-àà* 'finger', pl. *yaas-àuu*; *maayèè* 'wizard', pl. *maayuu*; *d-ànyee* 'a fresh one', pl. *d-ànyuu*; *gaas-ii* 'hair', pl. *gaasuu*; *kay* 'head', pl. *kaanuu* also belongs here, but no regular loss (except -zero) can be stated, since a morpheme alternant is used.

-*aa* ' ', -V (1). *dààmisi* 'leopard', fem. *dààmisàà*. ' ', -V. *k-àramii* 'a small one', fem. *k-àramaa*; *màrak-ii* 'bull calf', *màrak-aa* 'female calf'; *dùkusii* 'colt', fem. *dùkusaa*. ' ', -V. *àlfadarii* 'hinny', fem. *àlfadaraa*. ' ', -V. *kaafàr-ii* 'pagan', fem. *kaafàràà*. *làntirk-ii* 'electric light', pl. *làntirkàà*. ' ', -V (2). *zùngùruu* 'a long calabash', pl. *zunguràà*; *tààkàlmii* 'sandal', pl. *taakalmàà*. ' ', -V (1). *hak-òorii* 'tooth', pl. *hak-òòdraa*. ' ', -V (2). *bak-ii* 'a black one', fem. *bak-aa*; *mààtaa* 'woman', pl. *maataa*.

-*ay*—very common; usually with ' ' tone pattern. ' ', -zero (2). *šàrif* 'one who claims descent from Mohammed' (BD), pl. *šàr-ii-fay*; *tàrbuš* 'a fez', pl. *tàrbùs-ay*. ' ', -V. *kyànkya-àsoo* 'roach', pl. *kyànkya-say*; *budurwaa* 'young woman', pl. *bùdùrway*; *àbààwaa* 'yarn', pl. *àbààway*. ' ', -*iyaa* (3). *tufaaniyaa* 'door', pl. *tufàànay*; *àràfiyàà* 'fine thread', pl. *àràhay*; *àk-òòtiyaa* 'revolver', pl. *àk-òòtay*. ' ', -*waa* (1), -*uwaa* (2). *càkwaykwaywàà* 'a starling' (BD), *càkwayk-wayay*; *kùrkunnuwàà* 'soot', pl. *kùrkunnay*; *tùrgunnuwaa* 'an edible herb', pl.

tùrgùnnay. ' ', -V (1). *masookii* 'pin', pl. *masòòkay*. ' ', -V (1) *kuusùù* 'rat', pl. *kuusay*.

-iyaa ' ', -V. *jààriirì* 'baby', fem. *jààriiriyaa*. ' ', -V. *ʔàbookii* 'friend', fem. *ʔàbookiyàà* (also *ʔàbiyàà*). ' ', -V. *maykii* 'Ruppell's griffon' (BD sub *miki*), fem *maykiyaa*; *maayèè* 'wizard', fem. *maayiyaa*.

-aawaa ' ', -V, -ay (1). *fòòtoo* 'picture', pl. *fòòtààwaa*; *gwaarii* (tribe name), *gwààrààwaa* 'Gwaari tribesmen' (sg. *bàgwaarii*); *hawsa* 'Hausa', *hàwsààwaa* 'Hausas'; *tuuray* 'Europe', *tùùrààwaa* 'Europeans' (sg. *bàtuurèè*). ' ', -V. *bawcii* (place name), *bawtaawaa* 'people of Bauchi'; *tallàkàà* 'subject, tax-payer', pl. *tallakaawaa*; *kazganyàà* 'female lamb', pl. *kazganyaawaa*. As seen by these examples, *-aawaa* is added to many bases which may have the stem extension *bà-* with *-ii*, *-ee* suffixes. The latter forms are singular, the corresponding plural being formed from the simple base by the suffix *-aawaa*. (See 3.6.2 for *bà - - ii/-ee*.)

3.5.2. Deverbal nouns. Of the deverbal nouns, those formed with ' ' -zero never have any affixes. Any other apparently could, though few have been noted apart from the regular formations ' ' *ma - - V*, ' ' *ma - - ii*, and *-aCCee*. Several certain examples may be given: *moosʔ*- 'make a noise moving about', *mòòcʔii* 'noise of moving about' pl. *mòòsʔaa*; *sʔòòsʔ*- 'to suck, kiss', *sʔòòsʔoo* 'a kiss' pl. *sʔòòsʔànnii*; *taf-* 'to depart', *tàfiyàà* 'going', *tàfiyaw* 'one who goes'; *gaj-* 'to be tired', *gàjiyàà* 'the being tired', *gàjiyayyee* 'one completely tired out'; *raam-* 'to suffer loss to one's body, become thin', *raamii* 'hole', pl. *raamund*. With extended stem: *taaf-* 'to perform action with flat of hand or foot', *tààfi* 'palm, sole', pl. *tààfàffii*.

Of the regular formations ' ' *ma - - V* may have several affixes. Those noted are: *-ee* *saar-* 'to sweep', *maʔsaarii* 'sweeping instrument', pl. *maʔsààree*. *-aa* *dabʔ-* 'to pound', *madabʔii* 'beating stick', pl. *màdubbʔàà* (with extended stem; see 3.6.5.). *-ay* *buudʔ-* 'to open', *mabuudʔii* 'key', pl. *màbùùdʔay*. The plural in *-ay* is the most common.

' ' (') ' *ma - - ii* may have *-iyaa*, *-aa*, *-ay* (rare). With *-aa* the tone pattern remains the same; with *-iyaa* it is ' ' ' ' (variant ' ' ' '); *-ay* has ' '. E.g. *ʔaykat-* 'to work' (tr.), *maʔàykàcii* 'worker', fem. *maʔaykaciyyàà*, pl. *maʔàykàtaa*; *kadʔ-* 'to beat', *makàdʔii* 'beater', fem. *makadʔiyàà*; *sassakʔ-* 'to chip', *masàssàkʔii* 'carpenter', pl. *màsàssàkʔay*.

The *-aCCee* formation has ' ' ' *-aa* for feminine and ' ' *-uu* for plural (as when added to noun base, 3.5.1). E.g. *tuubʔ-* 'to remove, depose', *tùùbʔabbʔee* 'one removed or deposed', fem. *tùùbʔabbʔaa*, pl. *tùùbʔabbʔuu*.

3.5.3. Extended noun bases—possible affixes. The completely reduplicated base with change of tone may take ' ' *-ay*: *ʔàyààʔàyàà* 'a plant like tiger-nut', pl. *ʔàyààʔàyay*; *kʔìbààkʔibàà* 'fat person', pl. *kʔìbààkʔibay*. The example of reduplication after loss of final vowel and tone pattern takes *-kuu* with replacement vowel *-aa* *C¹*- (see 3.6.4): *kʔàykʔàykʔay* 'chaff', pl. *kʔàykʔàykʔaykuu* (note that here *-a* replaces *-a-*).

The *bà-* extension of the base may take *-ay*. Two examples have been noted, one with extended stem (affix *-C-*, 3.6.5). The tone pattern is ' ' ; loss is *-V*:

hagòò 'left hand', *bàhagòò* 'left handed person' pl. *bàhàgay*; *jìniì* 'blood', *bàjiniì* 'bull' pl. *bàjinnay*.

Prefix reduplicated bases may have '' -*uu*, '' -*ay*: *muunì* 'ugliness', *mùmmuunaa* 'ugly person' pl. *mùmmùnnay*; *tawrii* 'toughness', *tàttawraa* 'tough person' pl. *tàttàwruu*; *gaaši* 'hair', *gàlgaasàà* 'hairy person' pl. *gàlgààsay*; *màdtaa* 'woman', *màlmaatàà* 'eunuch' pl. *màlmààtay*. Prefix forms with hypothetical bases do not take further affixes; all other forms from such a base are formed directly upon it.

The one example of the suffix formation has three affixes: *ʔàljanjànii* 'one possessed of Jinn', fem. *ʔàljanjànaa*, pls. *ʔàljanjànuu*, *ʔàljanjànay*.

3.6. Extended stems. Certain stems, after loss but before the addition of any affix to the stem, add to the base any one (and in a few cases two; see below) of a number of elements. Each resulting form has its possible affixes, but the total number of these affixes is very limited. They are:

-*ii* -*ee* -*uu* -*aa* -*ay* -*aw* -*uwaa* -*aawaa* -*kuu* -*uka*

For possible affixes to bases thus formed see 3.4.4 and below.

3.6.1. Reduplication with replacement -*aa*-. This form reduplicates hypothetical sub-bases, replacing the last vowel of the reduplicated element by -*aa*-. It is always accompanied by '' -*ay*. Loss is -V. E.g. **fikée fiffikèè* 'wing' pl. *fikààfikay*; **šikée šiššikèè* 'beam' pl. *šikààšikay*; **gijee gilgijèè* 'cloud' pl. *gizààgizay*; **piloo pilpilòò* 'butterfly' pl. *pilààpilay*; **kwiyy kwikwiyyòò* 'puppy' pl. *kwiyyààkwiyyay*.

3.6.2. Prefix formations, *bà*-, *ma*-. The prefix *bà*- extends stems which may then have either -*ii* or -*ee* as suffix. The tone patterns vary. This formation may have the suffix -*iyaa* (3.4.4). The combinations of final vowel and tone pattern noted are:

-*ii* ''', -V. *dàwraa* (place name), *bàdàwrii* 'native of *Dawra*'; *zànfàraa* (place name), *bàzànfàrii* 'native of *Zanfara*'.

-*ee* ''', -V. *bawcii* (place name), *bàbawcèè* 'native of *Bauchi*'. *tuuray* 'Europe', *bàtuurèè* 'a European, any white man'. ''', -V. *gabàs* 'East', *bàgabašèè* 'Easterner'; *sakwatòò* (place name), *bàsakwacèè* 'native of *Sokoto*'. One example with stem extension -*t*- (3.6.5) was recorded: *ʔarèèwaa* 'North' *bàʔarèèwacèè* 'Northerner'.

Stems extended by *ma*- take '' (') -*ii*. The meaning is the same as when applied to verb bases, i.e. it indicates 'one who is constantly employed at' (the base form). E.g. *waakʔàà* 'singing', *mawààkʔii* 'singer'; *fàrawtàà* 'a hunt', *mafàràwciì* 'hunter'. For this affix with stem extended in -*t*-, -*nt*- see 3.6.5.

3.6.3. Prefix CVC-. One example of the prefix CVC- (cf. 3.3.2) used as stem extension was noted. It takes '''' -*aayee*, -V loss: *jaa* 'red one' pl. *jajjààyee*.

3.6.4. Infix formations.

One infix reduplication, -C²C²V-, was noted. It reduplicates the second consonant of the stem, doubled, with the vowel following it. It has '' -*ay*: *kazagii* 'a type of drum', pl. *kàzàzàgay*.

Replacement vowels. A fairly common stem formation is the replacement by a vowel (-*aa* or -*u*-) of the sequential element (-zero- [close juncture] or -V-)

between the last two consonants of a base after loss. With *-u-* the stem may also be extended by *-C-*, so that three patterns are possible: *-uC¹-*, *-uC¹C¹-*, *-aaC¹-*. Possible affixes:

-uC¹- -aa

-uC¹C¹- -aa

-aaC¹- -ii -ee -uu -ay -kuu

E.g. *-uC¹- ' ', -V (3). gààtarii 'axe' pl. gaaturàà; tambàrii 'a type of drum' pl. tamburàà; māsassabii 'a harvesting implement' (BD sub *magirbi*) pl. masussubàà.*

-uC¹C¹- ' ', -V. hankàlii 'sense, caution' pl. hankullàà; rawàniì 'turban' pl. rawunnàà; takòòbii 'sword' pl. takubbàà.

-aaC¹- -ii ' ', -V (1). gùrmii 'an instrument like a banjo' pl. gurààmii. ' ', -V (1), -iyaa (2). dookii 'horse' pl. daawaakii; tunkiyaa 'ewe' pl. tuumaakii; ?àkwiyàà 'female goat' pl. ?aawaakii. -ee ' ', -V, -yaa (3), -waa (3). This is the most common of the infix formations and always has ' ' tone pattern: giširii 'salt' pl. gišààree; kuturuu 'leper' pl. kutààree. ?amaryaa 'bride' pl. ?amààree; tukunyàà 'calabash pot' pl. tukàànee; tab?aryaa 'pestle' pl. tab?ààree. dak?walwaa 'a laying hen' (BD) pl. dak?wààlee; kurmwaa 'deaf man' pl. kurààmee. -uu ' ', -V. duuc?ii 'rock' pl. duwààs?uu; d?uuyèè 'buttock' pl. d?uuwààwuu; murfùu 'cooking place, oven' pl. murààfuu. -ay ' ', -V (1). giširii 'salt' pl. gišààray. -kuu ' ', -V (3 plus example in 3.5.3). raariyaa 'strainer, path' pl. rààràykkuu; s?aamiyaa 'the tamarind tree' (BD) pl. s?ààmàykkuu; gaskeeyaa 'truth' pl. gàskàykkuu.

3.6.5. Suffix formations.

-t-. One stem extended in *-t-* is found with the suffix *-aw*: *jaa* 'red one', *jààtaw* 'a reddish person or thing'. Its (*-t-*'s) most frequent use is with *-ii* on a stem extended in *ma-* (3.6.2). The loss to the base is zero or one vowel mora (i.e. the final vowel of the base is shortened, if long, before the addition of *-t-*. E.g. *hàwkaa* 'madness' *mahàwkacii* 'crazy person'; *yunwàà* 'hunger' *mayìnwààcii* 'hungry person'; *k?aryaa* 'lie' *mak?àryààcii* 'liar'. One example was noted with stem extension *bà-* and affix *-ee*: *?arèèwaa* 'North' *bà?arèèwacèè* 'Northerner'.

Stem extension *-nt-* is also found with *-ii* and prefix *ma-*: *saàtàà* 'stealing' (deverbal noun) *masàtààncii*.

Stem extension *-C-* added to a base after loss doubles the final consonant of the base. It occurs with simple bases, with stems having replacement vowel *-u-* (3.6.4), once with stem with prefix *bà-* (3.6.2). It is found before *-ii*, *-ee*, *-uu*, *-aa*, *-ay*, *-uwaa*. E.g. *-ii ' ', -V (1) zààboo* 'guinea chicken' pl. *zàbbii*. *-ee ' ', -V (1) k?anèè* 'younger brother' pl. *k?annee*. *-uu ' ', -V (1) s?ananii* 'oppression' pl. *s?ànànnuu*. *-aa ' ', -V (2) k?aatòò* 'big tough man' pl. *k?attàà*; *rààk?umii* 'camel' *raak?ummàà*. *-ay ' ', -V ?àmiinì* 'pal' pl. *?àminnay*; *?ibìlìssii* 'demon' pl. *?ibìlìssay*; *?àniinì* 'coin worth a tenth of an English penny' pl. *?àninnay*. *-uwaa ' ', -V (1) zanì* 'a type of woman's garment' pl. *zannuwàà*.

Reduplicative suffixes. These consist of the addition of three moras (one mora = a single consonant or vowel) to the base, the last consonant mora being identical with the last consonant of the base (with regular phonologic changes). Two (*-C²VC-*, *-VC²C-*) are reduplications of the last three moras of the base. The others are:

-VCC- -aCC- -uCC-

-VVC- -aaC- -ooC- -eeC- -uuC-
 -VyV- -ayC-

The possible suffixes and their occurrence with stems thus extended are:

-ii -aCC- -aaC- -ooC- -eeC- -C²VC-
 -ee -aCC- -aaC- -eeC-
 -uu -aCC- -aaC- -C²VC- -V¹C²C-
 -aa, -uka -uCC-
 -ay -aCC- -ayC- -uuC- -V¹C²C-
 -uwaa -aaC- -uuC-

Examples, listed according to stem extension, are:

-aCC-. -ii ' ', -V *gàdgee* 'torch' pl. *gàdaggii*; *tòdoo* 'bull'; pl. *tòdàrrii*; *toofaa* 'a tough grass' pl. *tòdàffii*. -ee ' ', -V (1), ' ', -V (1) *kabàà* 'a little palm tree' pl. *kàbàbbē*; *giyàà* 'a kind of tree' pl. *giyàyyē*. -uu ' ', -V -*iyaa* (1). This is a fairly frequent formation. Compare the plural of forms with the suffix -aCCee (3.4.4 and 3.5.2). *zàree* 'thread' pl. *zàdàrruu*; *toozoo* 'hump' pl. *tòdàzzuu*; *hab²àà* 'chin' pl. *hàb²àbb²uu*; *ceed²iyaa* 'fig tree' pl. *cèd²àdd²uu*. -ay ' ', -V (2) *madàraa* 'fresh milk' pl. *màdàràrray*; *gab²àà* 'member of the body' pl. *gàb²àbb²ay*. ' ', -V (1) *sullee* 'top of a corn-stalk' pl. *sullàllay*.

-aaC-. -ii ' ', -V (1) *s²oofoo* 'an old one' pl. *s²òdàd²fi*. -ee ' ', -V. A common plural formation always with ' ' tone. *birì* 'monkey' pl. *biràdree*; *dunyaa* 'goose' pl. *dunyàdē*; *gaawaa* 'dead body' pl. *gaawàdē*. -uu ' ', -V (1), ' ', -V (1), ' ', -V (1) *bàdree* 'foreigner' pl. *bàdàràrruu*; *beeràà* 'a young girl' pl. *beeraaruu*; *miyà* 'soup' pl. *miyàdū*. -uwaa ' ', -V (3) *k²ayàà* 'thorn' pl. *k²ayaayuwàà*; *k²afàà* 'foot' pl. *k²afaafuwàà*; *kabàà* 'a little palm tree' pl. *kabaabuwàà*.

-ayC- only with -ay ' ', -V or -iyaa. *k²afàà* 'foot' pl. *k²afàyfay*; *daad²ii* 'pleasure' pl. *daad²àyd²ay*; *tuujèè* 'a type of bustard' (see BD s.v.) pl. *tuuzàyzay*; *bušiyaa* 'hedgehog' pl. *busàysay*.

-ooC- only with -ii ' '. This is a very common formation, always with this tone pattern. Loss to the base may be -V, -ay, -iyaa, -uwaa, -in, -ayaa, or -zero. -V *s²abgàà* 'switch' pl. *s²abgoogii*; *àfoo* 'garlic' pl. *àfoofi*. -ay (2—see below under the numerals) *s²àws²ay* 'disaster' pl. *s²aws²ooc²ii*. -iyaa *s²arkiyàà* 'thong on a drum' pl. *s²arkookii*; *muujiyàà* 'owl' pl. *muujoojii*. -uwaa *rakuwaa* 'a type of insect' pl. *rakookii*.

The names of the numerals may have this formation, and they illustrate the other possible losses to the base. They are given in full (from 'two'; the plural of 'one' was only gotten in the word for 'eleven'), though the word for 'five' has only the suffix -ii. *biyuu* 'two' pl. *biyooyii*. *ukù* 'three' pl. *ukookii*; *fud²uu* 'four' pl. *fud²ood²ii*; *biyal* 'five' pl. *biyoolii*; *šiddà* 'six' pl. *šiddoodii*; *bakwà* 'seven' pl. *bakookii*; *takwàs* 'eight' pl. *takwasoošii*; *tarà* 'nine' pl. *taroorii*; *goomà* 'ten' pl. *goomoomii*; *šàad²ayaa* 'eleven' pl. *šàad²ood²ii*; *àširìn* 'twenty' pl. *àširōorii*; *tàlātin* 'thirty' pl. *talaatinoonii*; *àrbà²in* 'forty' pl. *àrba²inoonii*; *hàmsin* 'fifty' pl. *hamsoosii*; *sàttin* 'sixty' pl. *sattinoonii*; *sàbà²in* 'seventy' pl. *saba²oo²ii*; *tàmàànin* 'eighty' pl. *tamanoonii*; *gòdmiyattarà* pl. *gòdmiyattaroorii*; *d²àrii* 'one hundred' pl. *d²aroorii*. This list illustrates very well the inconsistency of the loss suffered by similar bases. 'ninety' is a combination of noun-na-noun;

only the second noun, *tarà*, is affected by the formation. This is true of 'eleven' also, where *šad* is an element forming the numbers from eleven to nineteen.

-uuC-. -uwaa ' ', -V (1), ' ', -waa (1) *kwarì* 'ravine' pl. *kwàruuruwàà*; *turwaa* 'a type of ant' pl. *tùruuruwaa*.

-uCC-. -aa ' ', -V (3). -uka ' ', -V (1). *gàrii* 'country' pl. *garurràà* or *garurrukà*; *kʔàšii* 'bone' pl. *kʔasussàà*; *dàfoo* 'a cook' pl. *dafuffàà*.

-eeC-. -ii ' ', -V (1) *ganyee* 'leaf' pl. *ganyèèyii*. -ee ' ', -V (3) *waakèè* 'beans' pl. *waakèèkee*; *fagèè* 'any cleared open space' (BD) *fagèègee*; *fùree* 'blossom' pl. *furèèree*.

-C²VC-. -ii ' ', -yaa (1) *magaryaa* 'Jujube tree' (BD) pl. *magàrgàrii*. -uu ' ', -V (1) *màgàrà* 'talk, speech' pl. *màgàngànuu*.

-V¹C²C-. -uu ' ', -V (1) *tàfšee* 'squash soup' pl. *tàfsàfšee*. -ay ' ', -V (1) *gyaftòò* 'skirt' pl. *gyaftàftay*.

was noted: *ʔawòd* 'purchasing for household needs', *ʔawn-* 'to measure, weigh' *kàʔawnàà manì kʔwaryaa* 'measure me a kʔ. of cloth'.

4.2.3. Extended verb bases.

The reduplicative prefixes are identical with those used with the noun (see 3.3.2; no *CVC*²- is there quoted, but it undoubtedly exists). These are *CVC*-, *CVC*²-, *CVn*-, *CVL*-. With the verb, however, the *CVC*- prefix allows only a short vowel in the base following. One example each have been found of the other three with verb bases.

CVC-. This usually gives a continuous intensive aspect to the base. Suffixes and tone sets noted are: ' ' ' -*ee*, ' ' ' -*ee*, ' ' ' -*oo*. E.g. *cʔaag-* 'to tear', *cʔaccʔag-* 'to tear tear continuously or violently' *kààzaa taacʔaccʔàgeenì* 'the chicken pecked me', *yaacʔaccʔàgeesi* 'he tore him to pieces'; *taar-* 'to come together', *tattar-* 'come together (continuously)' *kùtattaroo mùsùlmii* 'come meet together (for worship), Muslims!' For this prefix on a stem extended by *-iy-* see below.

*CVC*²-. ' ' ' -*ee*. *kar-* 'to break', *karkar-* 'to scrape' *yaakarkàrèèši* 'he scraped him'.

CVn-. ' ' ' -*ee*. *bʔaar-* 'to remove outer covering', *bʔambʔar-* 'to shell' *bʔàmbʔàreeši* 'shell it!'

CVL-. ' ' ' -*ee*, -*aa*. **giz-* (see 3.3.2), *gilgiz-* 'to shake' *naagilgijèèši* 'I shook it', *naagilgizaaši* 'I shook it (to knock something off)'.

One example of a reduplicative suffix *-VCC-* was noted. This repeats the last vowel and consonant (doubled) of the base. The example also has the *-iy-* suffix. *kar-* 'to break', *karariy-* 'to break to pieces' *naàkàrariyeesi* 'I'll break him to pieces', *yaàkàrariyaaka* 'he'll break you to pieces'. The difference between the *-ee* and *-aa* forms is unclear.

-iy-. This is the only base formative which has been found with any other such formative on the same base. It occurs with both *CVC*- and *-VCC-* (see above), though not with both together. *kar-* 'to break', *kariy-* 'to break, cut (wages, price)' *yaakariyàà mamù kudʔii* 'he cut our wages', *yaakariyaaši guntuu guntuu* 'he broke him up into little bits'. With *CVC*-. *kakkariy-* 'to break up', *yaakakkàriyààši* 'he broke him up' (like a stick).

Suffixes *-any-*, *-s-*, and *-D-* have been noted in the following combinations: *-any-* ' ' ' -*ee*, -*aa*; *-s-* ' ' -*aa*, ' ' -*ee*; *-D-* ' ' -*aa*. The base suffers loss of *-V* when *-any-* is added. Note that *-D-* is found only with *-aa*. This was apparently the morpheme *da* 'with', but it is here a verb formative and no longer functions as the preposition. The final vowel of the preposition is short, also, whereas the *-aa* following *-D-* is the same length as other verbs' *-aa* suffixes.

-any-. *šaa-* 'to drink', *šany-* 'to dry, drain' *naašanyaa namàà*, 'I put meat out to dry', *yaašanyèèši* 'he drank it up'; *cii-* 'to eat', *cany-* 'to eat up' *yaacanyaa ʔàbincii* 'he ate up all the food', *yaacanyàà kudʔinši* 'he used up all his money'.

-s- *gay-* 'to tell', *gays-* 'to greet' *mùtāfi // mùgayšeesi* 'let's go and greet him', *mungaysààši* 'we greeted him'.

-D- *gay-* 'to tell', *gayD-* 'to greet' *mùtāfi // mùgaydàà ʔàlhajì* 'let's go and greet the Meccan pilgrim'; *baa-* 'to give', *baaD-* 'to give away' *yaabaadààši* 'he gave it away'.

4.3. Formation of the stem. The stem is formed by the addition of a tone

set and suffix to the base. This tone set consists of one or more tone patterns, the use of each being determined by context (see 4.5). The sets are indicated in the discussion by what may be considered the 'key' patterns, usually that after *yaa-* (*šii* + ' ', see 2.3.3). The following combinations of tone sets and final vowels were noted:

'	-zero	' '	-ee/-i, -aa, -u, -i	' '	-aa	' '	-ee		
'1	-zero, -ee, -oo	' '	-ee	-aa, -u, -i	' '	-ee/-i	' '	-ee, -aa	
' ('	-zero	' '	-ee	-aa, -oo, -i	' '	-ee	-aa	' '	-ee
' - '	-zero			' '		-oo			

4.3.1. Interrelations of stems.²

' '-ee and ' '-ee are usually intensive in contrast to ' '-ee/-i and ' '-ee/-i. E.g. *ʔ(e)b-* 'to take some from', *yaaʔèèbeešii* 'he fetched a little of it', *yaaʔeebèèšii* 'he fetched a lot of it'. *bug-* 'to beat', *yaabùgeešii* 'he beat him', *yaabugèèšii* 'he beat him badly'. *ʔams-* 'to receive', *naaʔàmšeešii* 'I received it', *naaʔamšèèšii* 'I received it back' (it being my own).

Differences between ' '-ee and ' '-aa are hard to determine, but one clear case is *nikʔ-* 'to grind', *naanikʔàà daawàà* 'I ground guinea-corn', *kànikʔèèšii dà lafkii* 'grind him to powder!' Here ' '-aa is used of grinding grain, while ' '-ee has an extended meaning, that of 'grinding' people.

-oo usually indicates 'hither' in contrast to -aa, -ee, etc. E.g. *ʔayk-* 'to send', *yaaʔàykèèšii* 'he sent him', *yaaʔaykààšii* 'he sent him thither', *yaaʔaykoošii* 'he sent him here'. *taf-* 'to depart', *yaatàfi* 'he went', *yaatafoo* 'he departed to come here, he came'. *koom-* 'to return', *yaakoomàà // gidaa* 'he returned home (there)', *say kaàkoomoo* 'till you return (here)'.

4.3.2. Object of verb's action. Four usages of the verb stem may be distinguished in regard to the object of the action:

1. Object expressed (noun or pronoun)
2. Object implied
3. Subject of the verb the object of the action
4. Intransitive.

It is sometimes difficult to tell whether the object is implied or the subject is the object of the action. The following are interrelations of tone sets with regard to these types:

' -u ' -u may express usages 2-4, but no case of these with object expressed was noted. E.g. *saam-* 'to get possession of', *yaasaamu* 'he received'. An object is always implied. *mut-* 'to die', *yaamutù* 'he died'. *bug-* 'to beat', *yaabùgu* 'he became drunk' (i.e. was beaten). *gam-* 'to put together', *yaagàmu dà kuuraa* 'he met a hyaena' (i.e. was put together with).

With -ee/-i the object is practically always expressed, the final vowel being -ee before pronouns and -i before nouns. Two examples have been noted of their use with object implied: *dʔawk-* 'to take', *dʔàwki tàfi* 'take (him) and go!'; *zaabʔ-* 'to choose', *kàtàfi // kàzààbʔee* 'go and choose!' Usually, however, the object implied usage is expressed by ' '-aa or ' '-aa, the meaning paralleling that of the same base with ' '-ee/-i. E.g. *dʔawk-* 'to take', *kàdʔawkàà // tàfi* 'take (him)

² Compare MGS 27-29, LHS pp. 52-54. There is also a good deal in PH, e.g. 105, 112, 113ff.

and go!', *kàdʔàwkeešì* 'take him!'; *ʔams-* 'to receive', *yaaʔamsàd* 'he received (it)', *yaaʔàmseešì* 'he received it', *naaʔàmšì wannàn* 'I received this'; *ʔ(e)b-* 'to take some from', *yaaʔìbàd* 'he fetched a little', *yaaʔèèbeešì* 'he fetched a little of it'. However, in other verbs both ''-aa and ''-aa may have object expressed or implied. The same relation exists between ''-ee/-i and ''-aa.

''-i and ''-ee are both used to indicate action upon the subject. (''-ee is also found with object expressed.) E.g. *bʔadd-* 'to lose', *yaabʔaccèè* 'he's lost'; *bʔaat-* 'to spoil', *yaabʔaacì* 'he's spoiled'.

4.4. Affixes to the stem.

4.4.1. Prefixes. The pronominal prefixes have been treated in 2.3.3 and may be summarized (numbers refer to pronoun chart in 2.3.3):

Perfective—*naa-* (2) with ''

Negative perfective—*bà—ba* plus *n-* (11)

Future—*naa-* (2) with ''

Optative—*ʔin-* (10)

Negative optative—*kadà-* plus *ʔin-*

The negative of the future is rare, another construction (*baà-* plus pronoun before a verbal noun, deverbal noun, or verb phrase used as a noun) usually being used. One example was, however, noted: *bàkaàlàdšì hancinkà bà* 'you'll never lick your nose'. The optative is used independently to express a wish, though the second person is no more than a substitute for the imperative. It is also used after other verbs, such as 'wish', 'cause', etc.

The imperative morpheme (!) may be considered a prefix, also (actualized as zero but affecting the tone pattern [see below]).

The stem is rarely found without one of the above prefixes. Several examples with noun subject where the stem is without prefix have been noted. E.g. *ʔallà baamù duuniyàd // mùyi hàwkaa // ʔallà baamù duukiyaa // mùkašèèta* 'God has given us the world; let's act crazily. God has given us property; let's waste (lit. kill) it!' (song).

4.4.2. Elements (not all affixes) following verb stem. The elements which follow the verb stem and affect it as to tone and final vowel are: pronoun object (2.3.3, chart 5, 8), *-waa*, and noun object. In the following lists *-šì* will represent the pronoun objects. *-waa* occurs only with stems which may not act as nouns (see 3.2.2). It is found with verb stems without prefixes, i.e. the prefixes and *-waa* are mutually exclusive. A stem followed by *-waa* occurs in noun position syntactically (e.g. after *šinà*). Compare the indefinite pronominal element *wa-* (2.3.5).

4.5. Tone sets. The following are the tone sets noted with the individual patterns belonging to each and the possible suffixes to the base. The forms after *šinà* function syntactically as nouns but are verbal in form.

4.5.1. '-zero.

' optionally after *bàn-*, *yaà-*, *kà-³* (i.e. a preceding low tone) before noun object, or without object.

' elsewhere.

³ Single prefixes and suffixes here stand for whole paradigms (see 2.3.3).

Verbs with this pattern are *bii-* 'to follow', *cii-* 'to eat', *fi-* 'to surpass', *jii-* 'to perceive', *yii-* 'to do, make', *soo-* 'to want'. Before noun object *-ii* is replaced by *-i*. E.g. *bii-* 'to follow': ' *kàbì hanyàjjirgii* 'follow the railroad!'; ' *kàbì mùtum wannàn* 'follow that man!'; ' *kàbiišì* 'follow him!'; ' *dʔayaa taabi dʔayaa* 'one followed another'. *cii-* 'to eat': ' *gòðbee naàcì ʔàbincii* 'tomorrow I'll eat food', ' *nii bàncì ʔàbincii ba* 'I didn't eat food'; ' *naàcii* 'I'll eat', ' *kadàkàcìišì* 'don't eat him!'; ' *nii bànci ba* 'I didn't eat', ' *munci kàamaa* 'we ate roast meat', ' *ʔinà soò ʔinci ʔantakkààjii* 'I want to eat chicken liver'. *jii* 'to perceive': ' *nii bànjì dukà bà* 'I didn't understand everything', ' *naayii makà // kàjì kunyà* 'I made you feel ashamed', ' *bàyyì hawsaa ba* 'he didn't understand Hausa'; ' *kuuraa taaji kàree* 'the hyaena heard the dog', ' *kay // bàkàjì tàwsàyyii ba* 'you feel no pity', ' *nii bànjì dà kyaw bà* 'I didn't understand well', ' *kadàkàjiišì* 'don't listen to him!'. *yii-* 'to do, make': ' *kooʔinaa // kaajee kaàyyì gidaa* 'wherever you go, you'll make a home', ' *suɲyì dòðka* 'they're going to make an order'; ' *suɲyì dòðkaa* 'they made an order', ' *ʔallà // yaayyiinì* 'God made me', ' *naàyyii* 'I'll do (it)', ' *kàyyì màganà* 'speak!', (lit. 'make speech!'). *soo-* 'to want': ' *ʔallà // yaàsookà* 'God will love you', ' *ʔallà // yaàsoo mùtum wannàn* 'God will love this man'.

4.5.2. '1 -zero, -ee, -oo.

' in imperative before *-ši*, sometimes before noun object

' elsewhere

Verbs taking this tone set are *bar-* 'to leave', *gaa-/gan-* 'to see', *jaa-* 'to pull', *kaaY-* 'to bring', *šaa-* 'to drink', *z-* 'to be on one's way'. E.g. *bar-* 'to leave', -zero: ' *bàrni* 'leave me!', ' *yaabaʔšì* 'he left him', ' *yaàbàrni* 'he'll leave me', ' *kadàkàbàršì* 'don't leave it!', ' *yaabaʔ gidaa* 'he left home'. *gaa-/gan-* 'to see', -zero: ' *gààši* 'look, there he is!' (lit. 'see him!'), ' *gàà bʔaawammacìjii* 'look, there's a snakeskin!'; ' *yaagaa kuuraa* 'he saw the hyaena', ' *yaaganšì* 'he saw him', ' *naàgansù* 'I'll see them', ' *bàtaganšì bà* 'she didn't see him'. *kaaY-* 'to bring', -zero: ' *taakay raamintà* 'she brought (it) to her lair'. *jaa-* 'to pull', -zero: ' *yaajaani fadʔàà* 'he pulled me into fighting', ' *yaajaa ʔigiyàà* 'he pulled the rope'. *šaa-* 'to drink', -zero: ' *šaa noonòò* 'drink milk!', ' *yaašaašì* 'he drank it', ' *yaašaa bààràdsaa* 'he drank liquor', ' *bààni ruwaa ʔinšaa* 'give me water to drink!'. *z-* 'to be on one's way', -ee 'to go', -oo 'to come': ' *yaajee* 'he went', ' *yaazoo* 'he came', ' *šii yaàzoo // nii naàzoo* 'he's coming and I'm coming', ' *zoo naà* 'come here!', ' *zoo dà màdrèècee* 'come in the evening!'.

4.5.3. ' (') -zero.

' in imperative before *-ši*, noun object.

' before pronoun elsewhere

' in all other positions

The only verb noted with this tone set is *baa-* 'to give': ' *bààni ruwaa ʔinšaa* 'give me water to drink', ' *bàà mààtaa wannàn furàà* 'give this woman *fura*!'; ' *naabaakà ʔita* 'I have given her to you', ' *naàbaakà ʔàbù wannàn* 'I'll give you this', ' *ʔallà yàbaakà gaafaràà* 'may God give you pardon'; ' ' *yaabaà mààtaššì dafì* 'he gave his wife poison', ' *naabaà sarkii* 'I gave to the king'.

4.5.4. ' - ' -zero, -oo.

' - ' in all forms recorded.

Verbs having this pattern are *cee-* 'to say', *saa-* 'to put', *z-* 'to be on one's way'. E.g. *cee-* 'to say', -zero: *kaaji ʔābin//dà yaaceè?* 'did you understand what he said?', *naaceè masù* 'I said to them', *kuuraa taaceè wannàn* 'the hyaena said this', *nii banceè koomii ba* 'I didn't say anything', *mùneenè // zaàni cèè* 'what shall I say?', *ʔābin//dà kanà cèwaa* 'the thing you're talking about'. *saa-* 'to put, place' -zero: *sad rùgaa* 'put on some clothes', *sadšì gā wulaa* 'put it in the fire!' (*kàsaà* more common), *ʔallà kàsaà // ʔingaa ʔannabi* 'God grant (lit. place) that I see the prophet!', *kaddàkàsaà littaaʔi naà* 'don't put the book here!', *nii baàni sadwaa naà* 'I won't put (it) here', *naasaà naà* 'I put (it) here', *naasadšì naà* 'I put it here', *sunsad māsaa kaayaa* 'they put a load on the ox (*sad*)'. *z-* 'to be on one's way', -oo 'to come (hither)': *zod naà* 'come here!', *kàzod naà* 'come here!', *kaddàšizod naà* 'may he not come here!', *muʔzod naà* 'we'll come here', *šindà zoodwaa* 'he's coming'.

4.5.5. '' -ee/-i.

'' in imperative before noun object, optionally elsewhere with noun object.
'' elsewhere.

This is a very common form. -ee occurs before pronoun object (-šì) and -i before noun object (but see also 4.3.2). E.g. *saam-* 'to get possession of', -ee/-i 'to get, receive': '' *naasàdmi daamaa* 'I got an opportunity', *kaàsàdmi duuniyàà* 'you will get the world', *šindà soonʔyàsàdmi kʔwaarii gā ʔibilišì* 'he wanted to receive magical power from the demon', *nii bànsàdmi daamaa ba* 'I didn't get a chance'; '' *kaàsàdmi kùlakkà // yaʔ* 'you'll get your care today', *wani ʔābu yaasàdmeeshì* 'something happened to (lit. got) him'. *duub-* 'to look', -ee/-i 'to look at': '' *dùbì baayankà* 'look behind you!', *naadùbì gusùn* 'I looked South'; '' *yaadùbeenì* 'he looked at me', *kàdùbèeshì* 'look at him!', *rààkʔumii // màyduubanneesà bàkàdùbì kusaa ba* 'O farseeing camel, you don't look at (anything) nearby'. *bug-* 'to beat', -ee/-i 'to beat a little': '' *bùgì ʔabdù gā bààkì* 'hit Abdu on the mouth!', *yaabùgì màdtaššì* 'he beat his wife' (optionally:) '' *yaabùgì màdtaššì*, *yaabùgeeshì* 'he beat him', *yaabùgeeshì* 'he'll beat him'. *hayf-* to bear (a child): '' *taahàʔfi yaaròd* 'she bore a boy'; '' *taahàʔfi namijì* 'she bore a male (child)', *taahàʔfeeshì* 'she bore him'.

4.5.6. '' -aa

'' before noun object
'' elsewhere

E.g. *jikʔ-* 'to wet', -aa 'to be wet' ('' -aa 'to wet'): '' *taajikʔaa* 'it's wet'. *saY-* 'to buy', -aa 'to buy (it)' ('' -ee 'to buy', trans.): '' *naasàyaa* 'I bought (something)'. *šig-* 'to enter': '' *dukà sàmàdrii // sunšigàà soojà* 'all the young men have become soldiers', *yaasigàà ruwaa* 'he went into the water', *hakì // yaasigàà ʔidòonaa* 'a grass got in my eye'. *cik-* 'to fill', -aa 'to be filled, fill': '' *naacikàà guurìnaa* 'I fulfilled my greatest ambition'; '' *yaacikaa* 'it's full'. *kul-* 'to care for': '' *kùlāà dā šii* 'take care of him!', *naakùlāà dā suu* 'I took care of them', *kaddàkàkùlāà dā šii* 'don't care anything about him!', *bàmikùlāà dā šii ba* 'we don't care anything about him', *ʔindà kulàdwaa* 'I'm always mindful (of it)', *nii bànkùlāà ba* 'I don't care'.

4.5.7. '' -u

'' in all positions noted

This form is never transitive. It is not very common.

E.g. *gam-* 'to put together', *-u* 'to meet' (with: *dà*): *tàfi* // *gàmu dà ši* 'go meet him!', *mungàmu* 'we met', *mùgàmu* 'let's meet', *say mungàmu dà ʔàlfeerì* 'until we meet in fortunate circumstances!', *nii bàngàmu dà ši ba* 'I didn't meet him'. *taar-* 'to gather', *-u* 'to meet together': *suntàaru* // *wani wajee* 'they met together someplace', *kùzoo* // *mùtàaru* 'come (ye), let's meet together!'. *saam-* 'to get possession of', *-u* 'to take place': *yaasàdumu* // *kusaa dà raanaa sʔakà* 'it took place near noon.'

4.5.8. '' -i

'' in imperative

'' or '' optionally elsewhere

This combination is rare. No transitive forms were noted.

E.g. *kʔoos-* 'to be full, mature', *-i* 'to be full of food': '' *yaaci yaakʔòðši* 'he ate and became full'. *taf-* 'to depart, go': '' *yaatàfi haʔàbàdaa* 'he's gone forever', *kaatàfiʔ* 'are you going!', *tàfi* // *gàmu dà ši* 'go meet him!', *tàfi* // *dàfʔeeši* 'go hit him in the mouth!', *yaagayàdà manì* // *nii kadàʔintàfi* 'he told me not to go', *yaatàfi gàbammù* 'he's going to go in front of us'; '' *gizòd yaatàfi gidansarkii* 'the spider went to the house of the king', *jiibii nii naatàfi gidanjirgii* 'the day after tomorrow I'm going to the railroad station', *wànì lòòkacìnee* // *kaatàfi gidaa jiyàdà* 'what time did you go home yesterday?'

4.5.9. '' -ee

'' in imperative before noun object

'' in imperative otherwise

'' elsewhere

This form is very common and contrasts with '' -ee/-i and '' -aa (see 4.3.1). It has intensive force in most cases.

E.g. *kwabʔ-* 'to release from': '' *kwàbʔeeši* 'take it off!', *kwàbʔee manì gààtarìi* 'take off (the head) from my axe'; '' *naakwabʔèèši gà bʔootàdà* 'I removed it from the handle', *kàkwabʔèèsi* 'release them!', *ʔallà kàkwabʔèè manì ʔaykìn//dà naasanì* 'God, keep me from doing what I know (is wrong)'. *rIf-* 'to cover': '' *rìfèè raamì* 'cover the hole!', *rìfèè bààkinkà* 'shut your mouth!'; '' *kàrifèè raamì wannàn* 'cover that hole!', *naarifèè ʔàsirinši* 'I kept (covered) his secret'. *dwaadʔ-* 'to plug up a hole': '' *dwààdʔèè kʔoofàdà* 'plug the hole!', '' *dwààdʔeeši* 'plug it up!'; '' *kaadwaadʔèèši* 'you have plugged it up'. *zaar-* 'to take one or more from a larger number': '' *zààrèè wannàn* 'take this one (out)!'; '' *zààreeši* 'take it (out)!'; '' *yaazaarèèši* 'he took it out', *sunà zaarèèwaa* 'they are taking (some) out'. *ʔaz-* 'to place, put', *-ee* 'to leave, keep': '' *ʔàjee manì wannàn* 'keep this for me!', *ʔàjeeši* 'keep it!'; '' *naaʔajèèši* 'I left it', *naaʔajèèši* 'I'll leave (or keep) it', *naaʔajèè littaafì* 'I'll keep the book', *kàʔajèè manì wannàn* 'keep this for me!', *ʔinà ʔajèèwaa* 'I'm keeping (it)'.

4.5.10. '' -aa

'' optionally in imperative before -ši or noun object

'' in imperative otherwise

'' elsewhere

This combination is found with many two syllable verbs.

E.g. *duub-* 'to look': '' *duùbààši* 'look at him!', *duùbàà bisà* 'look up!', *duùbàà fuskàssù* 'look at their faces!'; '' *duùbàaši* 'look at him!', *duùbàa tàmraaruwaa* 'look at the star!', *duùbaa* // *dà kyaù* // *dʔankanòònee* 'look out well; he's from

Kano!'; '' *yaaduubààši* 'he looked at him', *kàduubàà bààkʔoo wannàn* // *dà kyaìw* 'look at that stranger well!', *kàduubàà* // *dà kyaìw* 'look well!', *šinà duubààwaa* 'he's looking'. *bug-* 'to beat': '' *bùgàà yaaròò wannàn* 'beat that boy!', *bùgààši* *gà kumcìi* 'beat him in the jaw!'; '' *bùgaaši* 'beat him!'; '' *yaabugààši* 'he beat him', *naàbugààkà* 'I'll beat you', *yaabugàà dookìi* 'he beat the horse', *ʔinà bugààwaa* 'I'm beating (it)'. *gam-* 'to put together', *-aa* 'to put together, finish': '' *gàmàà ʔaykìi wannàn* 'finish this work!'; '' *kàwdàbààraa* // *gàmaata dà goociyaa* 'combine a good-luck charm with dodging' (lit. 'a charm, put it with dodging'); '' *yaagamààsù fadʔàà* 'he put them to fighting', *naagamàà* 'I've finished', *naagamàà ʔaykìinaa* 'I've finished my work'. *gwad-* 'to show, measure': '' *gwàdaaši* 'measure him!', *gwàdaa maši* 'show him!'; '' *yaagwadààni* 'he measure me', *yaagwadàà manì* 'he showed me'.

4.5.11. '' -u

'' in all position noted

This form is never transitive and is not very common.

E.g. *mut-* 'to die': *yaamutù* 'he died'. *hayf-* 'to bear (a child)', *-u* 'to be born, to bear (intr.)': *nii naahayfù* // *kàcʔinà* 'I was born in Katsina', *ʔàkwiyàà* // *taahayfù* // *yaw* 'the she-goat gave birth today'. *saam-* 'to get possession of', *-u* 'to receive (something)': *kaasaamù* 'you have received (magical power)', *koomii kaasaamù* // *ʔàduuniyàà* 'everything you have received in the world'.

4.5.12. '' -i

'' in imperative

'' elsewhere

This form is rare and most examples are intransitives.

E.g. *faadʔ-* 'to fall': *yaafaadʔi* 'he fell'. *taas-* 'to rise': '' *tààši* 'get up!'; '' *yaataaši* *sʔàyee* 'he stood up', *naàtaaši* 'I'll get up', *bàytaaši bà* 'he didn't get up', *kadàkàtaaši* 'don't get up!'. *fas-* 'to break', *-i* 'to be broken': '' *leebʔwànsi* // *yaafaši* 'his lip cracked'. *fadʔ* 'to tell', *-i* 'to tell (someone)': '' *yaajee yaafadʔi* 'he went and told (them)'. *bʔaat-* 'to spoil', *-i* 'to be spoiled': '' *yaabʔaacì* 'he's spoiled'.

4.5.13. '' -ee

'' In all forms recorded (imperative not recorded)

This form is very rare.

E.g. *gays-* 'to greet': *mungayseeši* 'we greeted him', *naàgayseeši* 'I'll greet him', *mùtâfi* // *mùgayseeši* 'let's go and greet him!', *ʔàgayseekà* 'bravo!'.

4.5.14. '' -aa

'' in imperative (only recorded before -ši)

'' elsewhere

This combination is rather rare.

E.g. *biy-* 'to pay': '' *bìyaaši* 'pay him!'; '' *yaabiyaani* 'he paid me', *kàbiyaaši* 'pay him!', *kàbiyaa màynaamàà* 'pay the butcher!', *kadàkàbiyaa* // *dà yawà* 'don't pay too much!'.

4.5.15. '' -oo

'' in imperative

'' elsewhere

This is the most common of the formations with ''.

E.g. *kaaY-* 'to bring', *-oo* 'to bring hither': '' *kàdwooši* 'bring him here!'; '' *ʔin kaakaawoo naamàà* 'if you bring meat . . .', *ʔallà šikaawookà laafiyàà* 'God bring you back safely!', *kàkaawoo bèèlinkà gidaanaa* 'bring your flute to my house!'. *koom-* 'to return', *-oo* 'to return hither': '' *yaàkoomoo baayaa* 'he'll come back here', *yaakoomoo gidaa* 'he returned home (here)', *ʔinkoomoo* 'let me return (here)'. *saY-* 'to buy', *-oo* 'to buy (and return here with)': '' *sàwoo naamàà* 'buy meat (and bring it back)', *sàwooši* 'buy it (and bring it back)', *nii naasawooki* 'I have bought you (f.)', *ʔin naàjee // nii naàsawoo wani ʔàbu* 'if I go, I'll buy something (and bring it back)'. *taf-* 'to depart', *-oo* 'to depart to come hither, to come': '' *yaatafoo* 'he came', *gààši yaàtafoo* 'look, he's coming!'. *gan-* 'to see', *-oo* 'to see someone who is far off': '' *muntàfi // munganooši* 'we went and saw him', *kàjee // kàganooši* 'go and see him!'. *safk-* 'to descend', *-oo* 'to descend hither': '' *sàfkoo kʔasà* 'come down (here)', *sàfkoo nañ* 'come down here!'; '' *yaasafkoo kʔasà dàgà tudù* 'he came down (here) from the hill'.

4.5.16. '' -i

'' in imperative

'' or '' elsewhere

No rule can be set up for the interchange of '' and '', though it does not seem to be at random. Some verbs are more frequently found with one rather than the other. E.g. *san-* 'know' usually has '', *gan-* 'see' usually has ''.

E.g. *bar-* 'to leave': '' *farinwatàà // bàri gààsaa dà raanaa* 'white moon, leave off vying with the sun!'; '' *kadàkàbàri* 'don't leave (it)!'; '' *yaabari gidaa* 'he left the house', *kàbàri gàbaatà* 'leave your worry!'. *gan-* 'to see': '' *naagani gidaa* 'I saw the house', *mii kaagani* 'what did you see?', *nii bàngani ba jìrginkaaayaa* 'I didn't see the freight train', *tàfi kusaa // kàgani* 'go up close and see!'. *san-* 'to know': '' *kay kaasanì // naasanì?* 'do you know I know?', *nii bànsanì bà* 'I don't know', *nii bànsanì koomii ba* 'I don't know anything'; '' *bàtàsani macìjji banèè* 'she didn't know he was a snake'.

4.5.17. '' -aa

'' in all certain forms recorded

This form is rare and apparently occurs only with object implied. The object expressed equivalent is '' -ee/-i.

E.g. *tangaz-* 'to redirect', *-aa* 'to head off': *kàtàngazàà wani wajee* 'head (them) off somewhere!'. *kangar-* 'to be invincible': *yaakàngaràà* 'he's invincible'. *rinjaay-* 'preponderate' (BD), *-aa* 'to be off balance': *yaarinjaayàà* 'it's off balance'. *gaagar-*, *-aa* 'become surly, out of hand' (BD): *yaagààgaràà* 'he's unmanageable'. *keeway-*, *-aa* 'to surround': *kùkèèwayàà* 'surround (it)!'.

4.5.18. '' -ee/-i

'' in imperative before -ši, optionally before noun object anywhere

'' elsewhere

This is a common form, occurring only with object expressed.

E.g. *ʔagaz-* 'to help': '' *yaaʔàgàjeenì* 'he helped me', *kàʔàgàjeenì* 'help me!', *kùʔàgàji gàjìyayyee* 'help the helpless!'. *ʔambat-* 'to mention': '' *yaaʔàmbàcì suunanšì* 'he mentioned his name', *šinà ʔàmbàcì suunanà* 'he's mentioning your name'; '' *naaʔàmbàceesì* 'I mentioned him', *šinà soon//šìʔàmbàceenì* 'he wants to mention me', *kadàkàʔàmbàceesì* 'don't mention him!'. *fatawt-* 'to trade':

''' *yaafâtâwci* 'he traded this thing'; ''' *yaafâtâwceeši* 'he traded in it'. *tambay-* 'to ask': ''' *tâmbâyèèši* 'ask him!'; ''' *yaatâmbâyî sarkii* 'he asked the king', *kâtâmbâyeeši* 'ask him!'. *taymak-* 'to help': ''' *wani bâyâtây mâkî wani ba* 'one doesn't help another'; ''' *yaatây mâkeesu kâkkab²àà* 'he helped them beat', *kâzoo* // *kâtây mâkeenî* 'come help me!'. *sassak²-* 'to chip': ''' *naasâssâk²î* 'I chipped the wood'; ''' *naasâssâk²eeši* 'I chipped it'. *b²alga-* 'to break off a little piece from': ''' *nii bâmb²âlgâceeši bâ* 'I didn't break a piece off it', *b²âlgâci kâd²an* 'break off a little', *naab²âlgâci kâd²an* 'I broke off a little'.

4.5.19. ''' -ee and -aa

''' in imperative before noun object

''' in imperative otherwise

''' before -waa

''' or ''' elsewhere (''' more common)

Most verbs taking tri-tone patterns may have these combinations.

E.g. *kâkkab²-* 'to beat', -ee 'to beat to knock something off a thing': ''' *kâkkab²èè* *rûgakkâ* 'brush off your coat'; ''' *kâkkab²eeši* 'beat it (to knock something off it)!'; ''' *kâkakkab²èè bangoo* 'knock (the cobwebs) off the wall!'; ''' *kâkakkab²eeši* 'beat it!' (as above). *²aykat-* 'to work (something)', -aa: ''' *²âykatâà* *²âbû wannân* 'work this thing!'; ''' *²âykatâaši* 'work it!'; ''' *²inâ ²âykatâawaa* 'I'm working (something)'; ''' *naa²âykatâà* 'I worked (it)', *naa²âykatâàši* 'I worked it', *kû²âykatâà wannân* 'work (ye) this!'; ''' *kû²âykatâaši* 'work (ye) it!'. *gilgiz-* 'to shake', -ee 'to shake an inanimate thing': ''' *gilgijeeši* 'shake it!'; ''' *naagilgijèèši* 'I shook it hard'; -aa 'to shake an animate thing': ''' *gilgizaasu kâd²an* 'shake them a little!'; ''' *kâree yaagilgizâà mâtâgee* 'the dog shook the cat'; ''' *naagilgizaaši* 'I shook him', *yaagilgizaa jînkînši* 'he shook himself'. *šany-* 'to dry, drain', -aa 'to put out to dry': ''' *šânyaaši* 'put it out and dry it!'; ''' *šînâ šânyâawaa* 'he's putting (it) out to dry'; ''' *naašânyaaši* 'I put it out and dried it', *naašânyaaši* 'I'm going to put it out and dry it'. *karant-* 'to read', -aa: ''' *kârântâà takârdaa* 'read the paper!'; ''' *ba²yâ ²iyâà karântâawaa* 'he can't read'; ''' *yaakarântâà* 'he read', *yaakarântâà takârdaa* 'he read the paper'; ''' *kâkarântaaši* 'read it!'. *²aadan-*, -aa 'to put in safe keeping, keep': ''' *²âàdânaaši* 'keep it (safely)!', *²âàdânaa manî wannân* 'keep this for me!'; ''' *kâ²aadânaaši* 'keep it (safely)!'. *tank²was-* 'to bow', -ee: ''' *tânk²wâšee kâd²an* 'bow down a little!'; ''' *nii naatank²wâšee* 'I bowed down'.

4.5.20. ''' -oo

''' in imperative (only noted with -ši)

''' elsewhere

E.g. *tangaz-* 'to redirect', -oo 'to round up': ''' *tângâzoosû* 'round them up!'; ''' *yaatangazooši* 'he rounded him up', *kâtangazoošû* 'round them up!', *kâtangazoo bisâàšee* 'round up the animals!'. *tattar-* 'to gather' (only recorded with -oo): ''' *kûtattaroo* 'come meet together (for worship)'.

Examples of verb stems of four syllables are rare, but the following were noted:

4.5.21. ''' -ee

²azaabant- 'to give someone a hard time': *yaa²âààbânceeši* 'he gave him a hard time', *kâ²âààbânceeši* 'make it hard for him!', *²âààbânceeši* 'make it hard for him!'.

4.5.22. ' ' ' ' -ee, -aa. Compare ' ' ' -ee, -aa 4.5.19.

karariy- 'to break into little pieces': *naàkàrariyeeši* 'I'll break him to pieces', *yaakàrariyèèši* 'he broke him into bits', *yaàkàrariyaaka* 'he'll break you to pieces', *yaakàrariyaaši* 'he broke him into bits'.

4.5.23. ' ' ' ' -ee

ragwargwaz- 'to break to pieces': *naàragwargwàjeeši* 'I'll break him to pieces', *šinà ragwarwàjeeši* 'he's smashing him to pieces'. *rugurguz-* 'to be broken up': *yaadàfu* // *tay yaarugurgùjee* 'it cooked until it fell apart'. *rugurgud?*- 'to be broken to pieces': *yaarugurgùd?ee* 'it's broken to pieces'.

4.5.24. ' ' ' ' -ee, -aa.

If *-riy-* in the following example be interpreted as *-ry-*, the pattern would be ' '. It is here considered a stem extended by the suffix *-iy-* and hence *-riy-* (4.2.3). *kakkariy-* 'to break (like a stick)': *yaakakkàriyeeši* 'he broke him up', *yaakakkàriyaaši* 'he broke him up'.⁴

⁴It should be added that the value of the longer examples is uneven as regards tone phrase juncture. Many have no junctures marked where checking would reveal several. In general there is a juncture before a verb (i.e. between adverb or noun subject and verb) and before an adverb or prepositional phrase after the verb.